Ceiling Exposed Split Systems

Models: MCM 020 D/DR
MCM 025 D/DR
MCM 030 D/DR
MCM 040 D/DR
MCM 050 D/DR
MCM 061 C/CR
MCM 062 C/CR

McQuay® Air Conditioning

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Note: Installation and maintenance are to be performed only by qualified personnel who are familiar with local codes and regulations, and experienced with this type of equipment,

Caution: Sharp edges and coil surfaces are a potential injury hazard. Avoid contact with them.

Warning: Moving machinery and electrical power hazards. May cause severe personal injury or death. Disconnect and lock off power before servicing equipment.

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Special Features

Ultra Slim New Stylish Design Profile

This unit is contemporary in design and match even the most up to date interior decor. The slim, round profile and compact design of this unit adds a touch of elegance to every decor. No indoor connection pipe and hanger bracket are visible.

Ceiling And Floor Convertible With Space Saving Installation

This unit is designed for ceiling exposed type and floor exposed type with a very economical and space saving installation. No need renovation to wall or ceiling for ceiling exposed and no foundation work is required for floor exposed installation. This easy to install and ready to operate unit ensure rapid and low installation cost.

Strong And Robust

The unit is built from strong casing material and robust parts to ensure long lasting reliable service. The drain pan is made from the POLYSTYRENE with a plastic coating on the surface to ensure no leaking and no condensation occur.

Friendly Serviceability

The air filter, electrical parts, fan and fan motor assembly can all be inspected and replace from bottom of the unit by simply removing the newly designed press in, pull out air intake grille. The POLYSTYRENE drain pan and the heat exchanger coils can remove from the unit easily by remove the bottom panel.

Microcomputer Remote Controller

The incorporated microprocessor give more accurate control and with the following extra features:

- Fan motor speed can be set at high/medium/low and automatic.
- Timer on/off - the unit can be pre-set to on and off automatically.
- Electronic thermostat - room temperature is precisely controlled resulting in energy saving and increase comfort.
- Sleep mode automatically increase set temperature since room temperature is lower at night thus achieving healthy sleep.

Wireless Remote Controller

The compact wireless remote controller makes it possible to operate the air conditioner anywhere within the room.

Auto or Manual Control On Vertical Airflow Direction

With auto control, the louver will automatically swing up and down to create an excellent air distribution. You can select your desired horizontal air flow direction by adjusting the vertical grille.

Specifications

Cooling Only (R22)

MODEL		INDOOR UNIT		MCM 020D	MCM 025D	MCM 030D		MCM 040D	MCM 050D
		OUTDOOR UNIT		MLC 020B	MLC 025B	MLC 030B	MLC 030C	MLC 040C	MLC 050C
NOMINAL COOLING CAPACITY			kcal/h	5040	6300	7056	7560	10080	12600
			W	5862	7327	8204	8792	11723	14654
			Btu/h	20000	25000	28000	30000	40000	50000
INDOOR UNIT	POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50, 208 - 230 / 1 / 60					
	REFRIGERANT / CONTROL			R22 / CAPILLARY TUBE IN OUTDOOR		R22 / CAPILLARY TUBE IN INDOOR			
	FAN	AIR FLOW	cfm/cmm	590 / 16.7	660 / 18.7	730 / 20.7		1110 / 31.4	1110 / 31.4
		FAN MOTOR	50 Hz	4 POLES x 45W	4 POLES x 95W	4 POLES x 95W		4 POLES x 145W	4 POLES x 145W
			60 Hz	4 POLES x 45W	4 POLES x 95W	4 POLES x 95W		4 POLES x 140W	4 POLES x 140W
		RATED INPUT POWER	W (50/60Hz)	96 / 114	130 / 155	132 / 179		240 / 337	240 / 337
		RATED RUNNING CURRENT	A (50/60Hz)	0.40 / 0.50	0.58 / 0.70	0.58 / 0.80		1.04 / 1.50	1.04 / 1.50
	COIL	TUBE MATERIAL		S.B.C.		S.I.G.C		S.B.C	S.I.G.C
		TUBE DIAMETER	mm/in	9.52 / 3/8					
		TUBE THICKNESS	mm/in	0.35 / 0.014					
		FIN MATERIAL		ALUMINIUM				ALUMINIUM (HYDROPHILIC TYPE)	
		FIN THICKNESS	mm/in	0.11 / 0.0043					
		ROW		3	3	3		4	4
		FIN PER INCH		12	12	12		12	12
		FACE AREA	m^2/ft^2	0.19 / 2.06	0.19 / 2.06	0.24 / 2.58		0.36 / 3.95	0.36 / 3.95
	DIMENSION	HEIGHT	mm/in	214 / 8.42	214 / 8.42	249 / 9.80		249 / 9.80	249 / 9.80
		WIDTH	mm/in	1214 / 47.80	1214 / 47.80	1214 / 47.80		1714 / 67.40	1714 / 67.40
		DEPTH	mm/in	670 / 26.30	670 / 26.30	670 / 26.30		670 / 26.30	670 / 26.30
	WEIGHT		kg	43	43	45		70	70
	SOUND PRESSURE LEVEL (H / M / L)		dBA	50 / 47 / 40	54 / 53 / 50	51 / 50 / 48		54 / 53 / 52	54 / 53 / 52
	CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
		AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)					
		OPERATION		LCD WIRELESS / LED WIRED MICROCOMPUTER REMOTE CONTROL					
	CONDENSATE DRAIN SIZE		mm/in	19.05 / 3/4					
	AIR FILTER			WASHABLE SARAN NET (OPTIONAL IONIZER FILTER)					
	PACKING DIMENSION	HEIGHT	mm/in	301 / 11.9		345 / 13.6		345 / 13.6	
		WIDTH	mm/in	1311 / 51.6		1361 / 53.5		1816 / 71.4	
		DEPTH	mm/in	760 / 29.9		760 / 29.9		760 / 29.9	
OUTDOOR UNIT	POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50 / < 380 - 420 / 3 / 50 >				380 - 420 / 3 / 50	
			V/Ph/Hz	208 - 230 / 1 / 60				200 - 230 / 3 / 60	
	COMPRESSOR	COMPRESSOR TYPE		ROTARY (RECIPROCATING) HERMETIC			RECIPROCATING HERMETIC		
		CAPACITOR - µF	50 Hz	45 / < NIL >	45 / < NIL >	50	45 / < NIL >	NIL	NIL
		1Ø / < 3Ø >	60 Hz	40	(35)	-	45	NIL	NIL
		LOCK ROTOR AMPERE - A	50 Hz	56 / < 21.4 >	56.5 / < 24.9 >	66	85 / < 39 >	45	62
		1Ø / < 3Ø >	60 Hz	37	(70)	-	88	78	106
		RATED RUNNING CURRENT - A	50 Hz	10 / < 3.7 >	13.8 / < 4.8 >	14.2	12.7 / < 5.2 >	5.8	8.3
		1Ø / < 3Ø >	60 Hz	8.75	(12.26)	-	16.3	11.7	14.5
		RATED INPUT POWER - W	50 Hz	2080 / < 1950 >	2710 / < 2560 >	2770	2577 / < 3050 >	3486	4943
		1Ø / < 3Ø >	60 Hz	1909	(2635)	-	3420	4040	5270
		PROTECTION DEVICE		OVERLOAD PROTECTION			OVERLOAD PROTECTION AND MANUAL RESET HIGH/LOW PRESSURE SWITCH		
	FAN	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50 , 208 - 230 / 1/ 60					
		FAN TYPE / DRIVE		PROPELLER / DIRECT					
		BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN					
		DIAMETER	mm/in	420.0 / 16.5			609.6 / 24.0		
		RATED RUNNING CURRENT (A)	50 Hz	0.56		0.7	1.09		
			60 Hz	0.76		-	1.23		
		RATED OUTPUT POWER (W)	50 Hz	55		80	145		
			60 Hz	55		-	145		
		RATED INPUT POWER (W)	50 Hz	133		166	241		
			60 Hz	166		-	261		
	COIL	TUBE MATERIAL		S.B.C	S.I.G.C	S.I.G.C	S.B.C		
		TUBE DIAMETER	mm/in	9.52 / 3/8					
		TUBE THICKNESS	mm/in	0.35 / 0.014	0.36 / 0.014 AVE.		0.35 / 0.014		
		FIN MATERIAL		ALUMINIUM (SLIT FIN TYPE)			ALUMINIUM (CORRUGATED FIN TYPE)		
		FIN THICKNESS	mm/in	0.127 / 0.005					
		ROW		2		2	1	2	2
		FIN PER INCH		14		16	16	14	16
		FACE AREA	m^2/ft^2	0.51 / 5.53			0.87 / 9.33		
	DIMENSION	HEIGHT	mm/in	646 / 25.40			850 / 33.46		
		WIDTH	mm/in	840 / 33.10			1,029 / 40.53		
		DEPTH	mm/in	330 / 13.00			400 / 15.75		
	WEIGHT		kg	57	58	58	95	100	105
	CASING	MATERIAL		GALVANISED MILD STEEL					
		THICKNESS	mm/in	0.8 / 0.031					
		FINISHING		POLYESTER POWDER					
	SOUND PRESSURE LEVEL		dBA	52	53	56	60	59	62
	PIPE	TYPE		FLARE VALVE					
		SIZE LIQUID	mm/in	6.35 / 1/4	9.52 / 3/8			9.52 / 3/8	
		GAS	mm/in	15.88 / 5/8	15.88 / 5/8			19.05 / 3/4	
	PACKING DIMENSION	HEIGHT	mm/in	710 / 27.95			1,000 / 39.37		
		WIDTH	mm/in	957 / 37.68			1,200 / 47.24		
		DEPTH	mm/in	461 / 18.15			560 / 22.05		

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation

S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

Heat Pump (R22)

MODEL			**INDOOR UNIT**		MCM020DR	MCM025DR	MCM030DR		MCM040DR		MCM050DR
			OUTDOOR UNIT		MLC020BR	MLC025BR	MLC030BR	MLC030CR	MLC035CR	MLC040CR	MLC050CR
NOMINAL COOLING CAPACITY				**kcal/h**	5040	6048	6552	7560	8820	10080	12096
				W	5862	7034	7620	8792	10258	11723	14068
				Btu/h	20000	24000	26000	30000	35000	40000	48000
NOMINAL HEATING CAPACITY				**kcal/h**	5292	6300	7056	8064	9072	10332	12096
				W	6155	7327	8206	9379	10551	12016	14068
				Btu/h	21000	25000	28000	32000	36000	41000	48000
NOMINAL TOTAL POWER (COOLING) - 1Ø [3Ø]				**W (50Hz)**	2216 [2179]	2993 [2823]	3114	3016 [3273]	3433	4011 [3912]	[5115]
				W (60Hz)	2056	2806	-	3584	-	4193	[5503]
NOMINAL TOTAL POWER (HEATING) - 1Ø [3Ø]				**W (50Hz)**	2237 [2189]	2913 [2903]	2875	2935 [3129]	3342	3501 [3402]	[4517]
				W (60Hz)	2103	2740	-	3286	-	3640	[4337]
NOMINAL TOTAL CURRENT (COOLING) - 1Ø [3Ø]				**A (50Hz)**	10.8 [4.0]	14.1 [5.2]	15.0	15.1 [5.6]	17.1	20.9 [6.7]	[8.5]
				A (60Hz)	9.6	13.1	-	17.4	-	12.1	[15.7]
NOMINAL TOTAL CURRENT (HEATING) - 1Ø [3Ø]				**A (50Hz)**	10.8 [4.0]	13.8 [5.3]	14.3	14.6 [5.5]	16.5	19.0 [6.1]	[7.9]
				A (60Hz)	10.0	12.9	-	16.3	-	10.9	[13.3]
INDOOR UNIT	**POWER SOURCE**			**V/Ph/Hz**	220 - 240 / 1 / 50, 208 - 230 / 1 / 60						
	REFRIGERANT / CONTROL				/ CAPILLARY TUBE IN OUTDO		R22 / CAPILLARY TUBE & TXV IN OUTDOOR				
	FAN	**AIR FLOW**		**cfm / L/s**	590 / 278	660 / 312	730 / 345		1110 / 524		1110 / 524
		FAN MOTOR		**50 Hz**	4 POLES x 45W	4 POLES x 95W	4 POLES x 95W		4 POLES x 145W		4 POLES x 145
				60 Hz	4 POLES x 45W	4 POLES x 95W	-	4 POLES x 95W	4 POLES x 140W		4 POLES x 140
		RATED INPUT POWER		**W (50/60Hz)**	96 / 114	130 / 155	132 / -	132 / 179	240 / 337		240 / 337
		RATED RUNNING CURRENT		**A (50/60Hz)**	0.40 / 0.50	0.58 / 0.70	0.58 / -	0.58 / 0.80	1.04 / 1.50		1.04 / 1.50
	COIL	**TUBE**	**MATERIAL**		S.B.C.		S.I.G.C		S.B.C.		S.I.G.C
			DIAMETER	**mm/in**	9.52 / 3/8						
			THICKNESS	**mm/in**	0.35 / 0.014						
		FIN	**MATERIAL**		ALUMINIUM				ALUMINIUM (HYDROPHILIC)		
			THICKNESS	**mm/in**	0.11 / 0.0043						
			ROW		3	3	3		4		4
			FIN PER INCH		12	12	12		12		12
		FACE AREA		**m^2/ft^2**	0.19 / 2.06	0.19 / 2.06	0.24 / 2.58		0.36 / 3.95		0.36 / 3.95
	DIMENSION		**HEIGHT**	**mm/in**	214 / 8.42		249 / 9.80		249 / 9.80		
			WIDTH	**mm/in**	1214 / 47.80		1214 / 47.80		1714 / 67.40		
			DEPTH	**mm/in**	670 / 26.30		670 / 26.30		670 / 26.30		
	WEIGHT			**kg**	43	43	45		70		70
	SOUND PRESSURE LEVEL (H / M / L)			**dBA**	50 / 47 / 40	54 / 53 / 50	51 / 50 / 48		54 / 53 / 52		54 / 53 / 52
	CONTROL		**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT						
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)						
			OPERATION		LCD WIRELESS / LED WIRED MICROCOMPUTER REMOTE CONTROL						
	CONDENSATE DRAIN SIZE			**mm/in**	19.05 / 3/4						
	AIR FILTER				WASHABLE SARAN NET (OPTIONAL IONIZER FILTER)						
OUTDOOR UNIT	**PACKING DIMENSION**		**HEIGHT**	**mm/in**	301 / 11.9		345 / 13.6		345 / 13.6		
			WIDTH	**mm/in**	1311 / 51.6		1361 / 53.5		1816 / 71.4		
			DEPTH	**mm/in**	760 / 29.9		760 / 29.9		760 / 29.9		
	COMPRESSOR	**POWER SOURCE**		**V/Ph/Hz**	220 - 240 / 1 / 50 / < 380 - 420 / 3 / 50 >						380 - 420 / 3 / 50
				V/Ph/Hz	208 - 230 / 1 / 60					200 - 230 / 3 / 60	
		COMPRESSOR TYPE			ROTARY HERMETIC			RECIPROCATING HERMETIC			
		CAPACITOR - µF		**50 Hz**	45 / < NIL >	45 / < NIL >	50	45 / < NIL >	35	40 / < NIL >	NIL
		1Ø / < 3Ø >		**60 Hz**	40	60	-	45	-	NIL	NIL
		LOCK ROTOR AMPERE - A		**50 Hz**	56 / < 21.4 >	57 / < 24.9 >	66	85 / < 39 >	82	100 / < 45 >	62
		1Ø / < 3Ø >		**60 Hz**	39.6	50	-	88	-	78	106
		RATED RUNNING CURR. (COOLING) - A		**50 Hz**	9.84 / < 3.7 >	13.0 / < 4.8 >	13.7	13.4 / < 5.0 >	15.0	18.8 / < 6.0 >	7.8
		1Ø / < 3Ø >		**60 Hz**	8.3	11.6	-	15.3	-	11.2	14.8
		RATED RUNNING CURR. (HEATING) - A		**50 Hz**	9.84 / < 3.7 >	12.7 / < 4.9 >	13.0	12.9 / < 4.9 >	14.4	16.9 / < 5.4 >	7.2
		1Ø / < 3Ø >		**60 Hz**	8.7	11.4	-	14.2	-	10.0	12.4
		RATED INPUT POWER (COOLING) - W		**50 Hz**	1987 / < 1950 >	2730 / < 2560 >	2816	2643 / < 2900 >	2952	3530 / < 3431 >	4634
		1Ø / < 3Ø >		**60 Hz**	1777	2486	-	3144	-	3595	4905
		RATED INPUT POWER (HEATING) - W		**50 Hz**	2008 / < 1960 >	2650 / < 2640 >	2577	2562 / < 2756 >	2861	3020 / < 2921 >	4036
		1Ø / < 3Ø >		**60 Hz**	1824	2420	-	2846	-	3042	3739
		PROTECTION DEVICE			OVERLOAD PROTECTION			LOAD PROTECTION AND AUTO RESET HIGH PRESSURE SW			
	FAN	**POWER SOURCE**		**V/Ph/Hz**	220 - 240 / 1 / 50, 208 - 230 / 1 / 60						
		FAN TYPE / DRIVE			PROPELLER / DIRECT						
		BLADE MATERIAL			GLASS REINFORCED ACRYL STYRENE RESIN						
		DIAMETER		**mm/in**	420.0 / 16.5			609.6 / 24.0			
		RATED RUNNING CURRENT		**A (50/60Hz)**	0.56 / 0.76		0.7 / -	1.09 / 1.25	1.09 / -	1.09 / 1.25	
		MOTOR OUTPUT		**W (50/60Hz)**	55 / 55		80 / -	145 / 145	145 / -	145 / 145	
		RATED INPUT POWER		**W (50/60Hz)**	133 / 165		166 / -	241 / 261	241 / -	241 / 261	
	COIL	**TUBE**	**MATERIAL**		S.B.C	S.I.G.C	S.I.G.C	S.B.C	S.I.G.C.	S.I.G.C	S.I.G.C
			DIAMETER	**mm/in**	9.52 / 3/8						
			THICKNESS	**mm/in**	0.35 / 0.014	0.36 / 0.014 AVE.		0.35 / 0.014		0.36 / 0.014 AV	0.36 / 0.014 AVE
		FIN	**MATERIAL**		ALUMINIUM (SLIT FIN TYPE)			ALUMINIUM (CORRUGATED FIN TYPE)			
			THICKNESS	**mm/in**	0.127 / 0.005						
			ROW		2		2	2			
			FIN PER INCH		14		16	16			
		FACE AREA		**m^2/ft^2**	0.51 / 5.53			0.87 / 9.33			
	DIMENSION		**HEIGHT**	**mm/in**	646 / 25.40			850 / 33.46			
			WIDTH	**mm/in**	840 / 33.10			1029 / 40.53			
			DEPTH	**mm/in**	330 / 13.00			400 / 15.75			
	WEIGHT			**kg**	57	58	58	95	95	100	105
	CASING		**MATERIAL**		GALVANISED MILD STEEL						
			THICKNESS	**mm/in**	0.8 / 0.031						
			FINISHING		POLYESTER POWDER						
	SOUND PRESSURE LEVEL			**dBA**	51	52	55	58	58	58	58
	PIPE	**TYPE**			FLARE VALVE						
		SIZE	**LIQUID**	**mm/in**	6.35 / 1/4	9.52 / 3/8			9.52 / 3/8		
			GAS	**mm/in**	15.88 / 5/8	15.88 / 5/8			19.05 / 3/4		
	PACKING DIMENSION		**HEIGHT**	**mm/in**	710 / 27.95			1000 / 39.37			
			WIDTH	**mm/in**	957 / 37.68			1200 / 47.24			
			DEPTH	**mm/in**	461 / 18.15			560 / 22.05			

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR
b) HEATING - 21.0°C DB INDOOR AND -8.3°C DB / -9.4°C WB OUTDOOR TO 26.7°C DB INDOOR AND 23.9°C DB / 18.3°C WB

Cooling Only (R22)

MODEL				INDOOR UNIT		MCM061C
				OUTDOOR UNIT		MLC061C
NOMINAL COOLING CAPACITY					kcal/h	14110
					W	16410
					Btu/h	56000
NOMINAL TOTAL POWER					W	5593
NOMINAL TOTAL CURRENT					A	9.4
INDOOR UNIT	POWER SOURCE				V/Ph/Hz	220 - 240 / 1 / 50
	REFRIGERANT / CONTROL					R22 / CAPILLARY TUBE IN INDOOR
	FAN	AIR FLOW			cfm / L/s	1550 / 732
		SOUND LEVEL (dBA)			HIGH	56
					MED	53
					LOW	46
		FAN MOTOR				2 x 4 POLES x 80 W
		RATED INPUT POWER			W	327
		RATED RUNNING CURRENT			A	1.40
	COIL	TUBE	MATERIAL			S.I.G.C
			DIAMETER		mm/in	9.52 / 3/8
			THICKNESS		mm/in	0.35 / 0.014
		FIN	MATERIAL			ALUMINIUM
			THICKNESS		mm/in	0.11 / 0.0043
			ROW			4
			FIN PER INCH			14
		FACE AREA			m^2/ft^2	0.42 / 4.51
	DIMENSION			HEIGHT	mm/in	285 / 11.2
				WIDTH	mm/in	1874 / 73.8
				DEPTH	mm/in	666 / 26.2
	WEIGHT				kg	85
	CONTROL			ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT
				OPERATION		LCD WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL
	CONDENSATE DRAIN SIZE				mm/in	19.05 / 3/4
	AIR FILTER					WASHABLE SARAN NET
	PACKING DIMENSION			HEIGHT	mm/in	368 / 14.5
				WIDTH	mm/in	1992 / 78.4
				DEPTH	mm/in	760 / 29.9
OUTDOOR UNIT	COMPRESSOR	POWER SOURCE			V/Ph/Hz	415 / 3 / 50
		COMPRESSOR TYPE				SCROLL
		CAPACITOR			μF	-
		LOCK ROTOR AMP.			A	74.0
		RATED RUNNING CURRENT			A	8.5
		RATED INPUT POWER			W	5008
		PROTECTION DEVICE				OVERLOAD PROTECTION / HI-LO PRESSURE SWITCH
	FAN	POWER SOURCE			V/Ph/Hz	220 - 240 / 1 / 50
		FAN TYPE / DRIVE				PROPELLER / DIRECT
		BLADE MATERIAL				GLASS R. ACRLY STYLENE RESIN
		DIAMETER			mm/in	600 / 24
		RATED RUNNING CURRENT			A	1.2
		MOTOR OUTPUT			W	400
		RATED INPUT POWER			W	258
	COIL	TUBE	MATERIAL			S.I.G.C
			DIAMETER		mm/in	9.52 / 3/8
			THICKNESS		mm/in	0.35 / 0.014
		FIN	MATERIAL			ALUMINIUM (SLIT)
			THICKNESS		mm/in	0.127 / 0.005
			ROW			3
			FIN PER INCH			14
		FACE AREA			m^2/ft^2	0.84 / 9.04
	DIMENSION			HEIGHT	mm/in	850 / 33.5
				WIDTH	mm/in	1030 / 40.6
				DEPTH	mm/in	460 / 18.1
	WEIGHT				kg	108
	CASING			MATERIAL		ELECTRO GALVANIZED MILD STEEL
				THICKNESS	mm/in	1.0 - 2.3 (0.0393 -0.0905)
				FINISHING		EPOXY POLYESTER POWDER COATING
	SOUND PRESSURE LEVEL				dBA	61
	PIPE	TYPE				FLARE VALVE
		SIZE		LIQUID	mm/in	12.7 / 1/2
				GAS	mm/in	19.05 / 3/4
	PACKING DIMENSION			HEIGHT	mm/in	1016 / 40.0
				WIDTH	mm/in	1178 / 46.4
				DEPTH	mm/in	602 / 23.7

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO

Abbreviation
S.B.C.
S.I.G.C

Cooling Only (R22)

MODEL			INDOOR UNIT		MCM062C
			OUTDOOR UNIT		MLC061C
NOMINAL COOLING CAPACITY				kcal/h	14110
				W	16410
				Btu/h	56000
NOMINAL TOTAL POWER				W	6195
NOMINAL TOTAL CURRENT				A	30.6
INDOOR UNIT	POWER SOURCE			V/Ph/Hz	230 / 1 / 60
	REFRIGERANT / CONTROL				R22 / CAPILLARY TUBE IN INDOOR
	FAN	AIR FLOW		cfm / L/s	1550 / 732
		SOUND LEVEL (dBA)		HIGH	56
				MED	53
				LOW	46
		FAN MOTOR			2 x 4 POLES x 80 W
		RATED INPUT POWER		W	338
		RATED RUNNING CURRENT		A	1.60
	COIL	TUBE	MATERIAL		S.I.G.C
			DIAMETER	mm/in	9.52 / 3/8
			THICKNESS	mm/in	0.35 / 0.014
		FIN	MATERIAL		ALUMINIUM
			THICKNESS	mm/in	0.11 / 0.0043
			ROW		4
			FIN PER INCH		14
		FACE AREA		m^2/ft^2	0.42 / 4.51
	DIMENSION		HEIGHT	mm/in	285 / 11.2
			WIDTH	mm/in	1903 / 74.9
			DEPTH	mm/in	680 / 26.8
	WEIGHT			kg	85
	CONTROL		ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT
			OPERATION		LCD WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL
	CONDENSATE DRAIN SIZE			mm/in	19.05 / 3/4
	AIR FILTER				WASHABLE SARAN NET
	PACKING DIMENSION		HEIGHT	mm/in	368 / 14.5
			WIDTH	mm/in	1984 / 78.1
			DEPTH	mm/in	760 / 29.9
OUTDOOR UNIT	COMPRESSOR	POWER SOURCE		V/Ph/Hz	230 / 1 / 60
		COMPRESSOR TYPE			SCROLL
		CAPACITOR		µF	70
		LOCK ROTOR AMP.		A	144.0
		RATED RUNNING CURRENT		A	27.7
		RATED INPUT POWER		W	5500
		PROTECTION DEVICE			OVERLOAD PROTECTION / HI-LO PRESSURE SWITCH
	FAN	POWER SOURCE		V/Ph/Hz	230 / 1 / 60
		FAN TYPE / DRIVE			PROPELLER / DIRECT
		BLADE MATERIAL			GLASS R. ACRLY STYLENE RESIN
		DIAMETER		mm/in	600 / 24
		RATED RUNNING CURRENT		A	1.7
		MOTOR OUTPUT		W	160
		RATED INPUT POWER		W	357
	COIL	TUBE	MATERIAL		S.I.G.C
			DIAMETER	mm/in	9.52 / 3/8
			THICKNESS	mm/in	0.35 / 0.014
		FIN	MATERIAL		ALUMINIUM (SLIT)
			THICKNESS	mm/in	0.127 / 0.005
			ROW		3
			FIN PER INCH		14
		FACE AREA		m^2/ft^2	0.84 / 9.04
	DIMENSION		HEIGHT	mm/in	850 / 33.5
			WIDTH	mm/in	1030 / 40.6
			DEPTH	mm/in	460 / 18.1
	WEIGHT			kg	108
	CASING		MATERIAL		ELECTRO GALVANIZED MILD STEEL
			THICKNESS	mm/in	1.0 - 2.3 (0.0393 -0.0905)
			FINISHING		EPOXY POLYESTER POWDER COATING
	SOUND PRESSURE LEVEL			dBA	61
	PIPE	TYPE			FLARE VALVE
		SIZE	LIQUID	mm/in	12.7 / 1/2
			GAS	mm/in	19.05 / 3/4
	PACKING DIMENSION		HEIGHT	mm/in	1016 / 40.0
			WIDTH	mm/in	1178 / 46.4
			DEPTH	mm/in	602 / 23.7

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation

S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

Heat Pump (R22)

MODEL			INDOOR UNIT		MCM061CR
			OUTDOOR UNIT		MLC061CR
NOMINAL COOLING CAPACITY				kcal/h	14110
				W	16410
				Btu/h	56000
NOMINAL HEATING CAPACITY				kcal/h	14110
				W	16410
				Btu/h	56000
NOMINAL TOTAL POWER (COOLING)				W	5593
NOMINAL TOTAL POWER (HEATING)				W	4551
NOMINAL TOTAL CURRENT (COOLING)				A	9.4
NOMINAL TOTAL CURRENT (HEATING)				A	8.1
INDOOR UNIT	POWER SOURCE			V/Ph/Hz	220 - 240 / 1 / 50
	REFRIGERANT / CONTROL				R22 / CAPILLARY TUBE - INDOOR (COOLING), OUTDOOR (HEATING)
	FAN	AIR FLOW		cfm / L/s	1550 / 732
		SOUND LEVEL (dBA)		HIGH	56
				MED	53
				LOW	46
		FAN MOTOR			2 x 4 POLES x 80 W
		RATED INPUT POWER		W	327
		RATED RUNNING CURRENT		A	1.40
	COIL	TUBE	MATERIAL		S.I.G.C
			DIAMETER	mm/in	9.52 / 3/8
			THICKNESS	mm/in	0.35 / 0.014
		FIN	MATERIAL		ALUMINIUM
			THICKNESS	mm/in	0.11 / 0.0043
			ROW		4
			FIN PER INCH		14
		FACE AREA		m^2/ft^2	0.42 / 4.51
	DIMENSION		HEIGHT	mm/in	285 / 11.2
			WIDTH	mm/in	1874 / 73.8
			DEPTH	mm/in	666 / 26.2
	WEIGHT			kg	85
	CONTROL		ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT
			OPERATION		LCD WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL
	CONDENSATE DRAIN SIZE			mm/in	19.05 / 3/4
	AIR FILTER				WASHABLE SARAN NET
	PACKING DIMENSION		HEIGHT	mm/in	368 / 14.5
			WIDTH	mm/in	1992 / 78.4
			DEPTH	mm/in	760 / 29.9
OUTDOOR UNIT	COMPRESSOR	POWER SOURCE		V/Ph/Hz	415 / 3 / 50
		COMPRESSOR TYPE			SCROLL
		CAPACITOR		µF	-
		LOCK ROTOR AMP.		A	74.0
		RATED RUNNING CURRENT (COOLING)		A	8.5
		RATED RUNNING CURRENT (HEATING)		A	7.2
		RATED INPUT POWER (COOLING)		W	5008
		RATED INPUT POWER (HEATING)		W	3966
		PROTECTION DEVICE			OVERLOAD PROTECTION / HI PRESSURE SWITCH
	FAN	POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50
		FAN TYPE / DRIVE			PROPELLER / DIRECT
		BLADE MATERIAL			GLASS R. ACRLY STYLENE RESIN
		DIAMETER		mm/in	600 / 24
		RATED RUNNING CURRENT		A	1.2
		MOTOR OUTPUT		W	400
		RATED INPUT POWER		W	258
	COIL	TUBE	MATERIAL		S.I.G.C
			DIAMETER	mm/in	9.52 / 3/8
			THICKNESS	mm/in	0.35 / 0.014
		FIN	MATERIAL		ALUMINIUM (CORRUGATED)
			THICKNESS	mm/in	0.127 / 0.005
			ROW		3
			FIN PER INCH		14
		FACE AREA		m^2/ft^2	0.84 / 9.04
	DIMENSION		HEIGHT	mm/in	850 / 33.5
			WIDTH	mm/in	1030 / 40.6
			DEPTH	mm/in	460 / 18.1
	WEIGHT			kg	108
	CASING		MATERIAL		ELECTRO GALVANIZED MILD STEEL
			THICKNESS	mm/in	1.0 - 2.3 (0.0393 -0.0905)
			FINISHING		EPOXY POLYESTER POWDER COATING
	SOUND PRESSURE LEVEL			dBA	61
	PIPE	TYPE			FLARE VALVE
		SIZE	LIQUID	mm/in	12.7 / 1/2
			GAS	mm/in	19.05 / 3/4
	PACKING DIMENSION		HEIGHT	mm/in	1016 / 40.0
			WIDTH	mm/in	1178 / 46.4
			DEPTH	mm/in	602 / 23.7

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a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO

Abbreviation
S.B.C.
S.I.G.C

Heat Pump (R22)

MODEL				INDOOR UNIT		MCM062CR
				OUTDOOR UNIT		MLC061CR
NOMINAL COOLING CAPACITY					kcal/h	14110
					W	16410
					Btu/h	56000
NOMINAL HEATING CAPACITY					kcal/h	14110
					W	16410
					Btu/h	56000
NOMINAL TOTAL POWER (COOLING)					W	6195
NOMINAL TOTAL POWER (HEATING)					W	5265
NOMINAL TOTAL CURRENT (COOLING)					A	30.6
NOMINAL TOTAL CURRENT (HEATING)					A	26.0
INDOOR UNIT	POWER SOURCE				V/Ph/Hz	230 / 1/ 60
	REFRIGERANT / CONTROL					R22 / CAPILLARY TUBE - INDOOR (COOLING), OUTDOOR (HEATING)
	FAN	AIR FLOW			cfm / L/s	1550 / 732
		SOUND LEVEL (dBA)			HIGH	56
					MED	53
					LOW	46
		FAN MOTOR				2 x 4 POLES x 80 W
		RATED INPUT POWER			W	338
		RATED RUNNING CURRENT			A	1.60
	COIL	TUBE	MATERIAL			S.I.G.C
			DIAMETER		mm/in	9.52 / 3/8
			THICKNESS		mm/in	0.35 / 0.014
		FIN	MATERIAL			ALUMINIUM
			THICKNESS		mm/in	0.11 / 0.0043
			ROW			4
			FIN PER INCH			14
		FACE AREA			m^2/ft^2	0.42 / 4.51
	DIMENSION			HEIGHT	mm/in	285 / 11.2
				WIDTH	mm/in	1903 / 74.9
				DEPTH	mm/in	680 / 26.8
	WEIGHT				kg	85
	CONTROL			ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT
				OPERATION		LCD WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL
	CONDENSATE DRAIN SIZE				mm/in	19.05 / 3/4
	AIR FILTER					WASHABLE SARAN NET
	PACKING DIMENSION			HEIGHT	mm/in	368 / 14.5
				WIDTH	mm/in	1984 / 78.1
				DEPTH	mm/in	760 / 29.9
OUTDOOR UNIT	COMPRESSOR	POWER SOURCE			V/Ph/Hz	230 / 1 / 60
		COMPRESSOR TYPE				SCROLL
		CAPACITOR			µF	70
		LOCK ROTOR AMP.			A	144.0
		RATED RUNNING CURRENT (COOLING			A	27.3
		RATED RUNNING CURRENT (HEATING			A	22.7
		RATED INPUT POWER (COOLING)			W	5500
		RATED INPUT POWER (HEATING)			W	4570
		PROTECTION DEVICE				OVERLOAD PROTECTION / HI PRESSURE SWITCH
	FAN	POWER SOURCE			V/Ph/Hz	230 / 1 / 60
		FAN TYPE / DRIVE				PROPELLER / DIRECT
		BLADE MATERIAL				GLASS R. ACRLY STYLENE RESIN
		DIAMETER			mm/in	600 / 24
		RATED RUNNING CURRENT			A	1.7
		MOTOR OUTPUT			W	160
		RATED INPUT POWER			W	357
	COIL	TUBE	MATERIAL			S.I.G.C
			DIAMETER		mm/in	9.52 / 3/8
			THICKNESS		mm/in	0.35 / 0.014
		FIN	MATERIAL			ALUMINIUM (CORRUGATED)
			THICKNESS		mm/in	0.127 / 0.005
			ROW			3
			FIN PER INCH			14
		FACE AREA			m^2/ft^2	0.84 / 9.04
	DIMENSION			HEIGHT	mm/in	850 / 33.5
				WIDTH	mm/in	1030 / 40.6
				DEPTH	mm/in	460 / 18.1
	WEIGHT				kg	108
	CASING			MATERIAL		ELECTRO GALVANIZED MILD STEEL
				THICKNESS	mm/in	1.0 - 2.3 (0.0393 -0.0905)
				FINISHING		EPOXY POLYESTER POWDER COATING
	SOUND PRESSURE LEVEL				dBA	61
	PIPE	TYPE				FLARE VALVE
		SIZE		LIQUID	mm/in	12.7 / 1/2
				GAS	mm/in	19.05 / 3/4
	PACKING DIMENSION			HEIGHT	mm/in	1016 / 40.0
				WIDTH	mm/in	1178 / 46.4
				DEPTH	mm/in	602 / 23.7

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
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4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO

Abbreviation
S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

Cooling Only (R407C)

MODEL	INDOOR UNIT			MCM020D	MCM025D	MCM030D	MCM040D	MCM050D
	OUTDOOR UNIT			M4LC020B	M4LC025B	M4LC030C	M4LC040C	M4LC050C
NOMINAL			kcal/h	4,612	5,292	7,560	9,576	12,600
COOLING			W	5,363	6,155	8,792	11,134	14,654
CAPACITY			Btu/h	18,300	21,000	30,000	38,000	50,000
INDOOR UNIT	POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50				
	REFRIGERANT / CONTROL			R407C / CAPILLARY TUBE (OUTDOOR)		R407C / CAPILLARY TUBE (OUTDOOR) + (TXV)		
	FAN	AIR FLOW	cfm/cmm	590 / 16.7	660 / 18.7	730 / 20.7	1,110 / 31.4	1,110 / 31.4
		FAN MOTOR		4 POLES x 45W	4 POLES x 95W	4 POLES x 95W	4 POLES x 145W	4 POLES x 145W
		RATED INPUT POWER	W	96	130	132	240	240
		RATED RUNNING CURRENT	A	0.40	0.58	0.58	1.04	1.04
	COIL	TUBE MATERIAL		S.B.C.		S.I.G.C	S.B.C	S.I.G.C
		TUBE DIAMETER	mm/in	9.52 / 3/8				
		TUBE THICKNESS	mm/in	0.35 / 0.014				
		FIN MATERIAL		ALUMINIUM			ALUMINIUM (HYDROPHILIC TYPE)	
		FIN THICKNESS	mm/in	0.11 / 0.0043				
		ROW		3	3	3	4	4
		FIN PER INCH		12	12	12	12	12
	FACE AREA		m^2/ft^2	0.19 / 2.06	0.19 / 2.06	0.24 / 2.58	0.36 / 3.95	0.36 / 3.95
	DIMENSION	HEIGHT	mm/in	214 / 8.42	214 / 8.42	249 / 9.80	249 / 9.80	249 / 9.80
		WIDTH	mm/in	1,214 / 47.80	1,214 / 47.80	1,214 / 47.80	1,714 / 67.40	1,714 / 67.40
		DEPTH	mm/in	670 / 26.30	670 / 26.30	670 / 26.30	670 / 26.30	670 / 26.30
	WEIGHT		kg	43	43	45	70	70
	CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT				
		AIR DISCHARGE		AUTOMATIC LOUVER LED WIRED (UP & DOWN) & MANUAL LOUVER (BOTTOM)				
		OPERATION		LCD WIRELESS MICROCOMPUTER REMOTE CONTROL				
	CONDENSATE DRAIN SIZE		mm/in	19.05 / 3/4				
	AIR FILTER			WASHABLE SARAN NET (OPTIONAL IONIZER FILTER)				
	PACKING DIMENSION	HEIGHT	mm/in	301 / 11.9		345 / 13.6	345 / 13.6	
		WIDTH	mm/in	1,311 / 51.6		1,361 / 53.5	1,816 / 71.4	
		DEPTH	mm/in	760 / 29.9		760 / 29.9	760 / 29.9	
OUTDOOR UNIT	POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50			380 - 420 / 3 / 50	
	COMP.	COMPRESSOR TYPE		ROTARY		SCROLL		
		CAPACITOR	µF	45	50	50	NIL	NIL
		LOCK ROTOR AMP.	A	54	58	78	45	62
		RATED RUNNING CURRENT	A	9.9	12.5	11.4	6.3	8.2
		RATED INPUT POWER	W	2,112	2,660	2,560	3,741	4,328
		PROTECTION DEVICE		OVERLOAD PROTECTION				
	FAN	FAN TYPE / DRIVE		PROPELLER / DIRECT				
		BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN				
		DIAMETER	mm/in	420.0 / 16.5		609.6 / 24.0		
		RATED RUNNING CURRENT	A	0.56		1.09		
		RATED OUTPUT POWER	W	55		145		
		RATED INPUT POWER	W	133		241		
	COIL	TUBE MATERIAL		SEAMLESS COPPER				
		TUBE DIAMETER	mm/in	9.52 / 3/8				
		TUBE THICKNESS	mm/in	0.36 / 0.014				
		FIN MATERIAL		ALUMINIUM (SLIT FIN TYPE)				
		FIN THICKNESS	mm/in	0.127 / 0.005				
		ROW		2		1	2	2
		FIN PER INCH		14		16	16	16
	FACE AREA		m^2/ft^2	0.51 / 5.53		0.87 / 9.33		
	DIMENSION	HEIGHT	mm/in	646 / 25.40		850 / 33.46		
		WIDTH	mm/in	840 / 33.10		1,029 / 40.53		
		DEPTH	mm/in	330 / 13.00		400 / 15.75		
	WEIGHT		kg	57	58	92.5	98.9	115
	CASING	MATERIAL		GALVANISED MILD STEEL				
		THICKNESS	mm/in	0.8 / 0.031		1.0-2.3 / 0.0393-0.0905		
		FINISHING		EPOXY POLYESTER POWDER				
	SOUND PRESSURE LEVEL		dBA	52	53	59	59	59
	PIPE	TYPE		FLARE VALVE / AEROQUIP		FLARE VALVE		
		SIZE LIQUID	mm/in	6.35 / 1/4	9.52 / 3/8		9.52 / 3/8	
		SIZE GAS	mm/in	15.88 / 5/8	15.88 / 5/8		19.05 / 3/4	
	PACKING DIMENSION	HEIGHT	mm/in	710 / 27.95		1,000 / 39.37		
		WIDTH	mm/in	957 / 37.68		1,200 / 47.24		
		DEPTH	mm/in	461 / 18.15		560 / 22.05		
	REFRIGERANT CHARGE		kg	1.65	1.65	1.90	3.13	3.15

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO
26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR TO

Abbreviation
S.B.C. - SEAMLESS BARE COPPER

Heat Pump (R407C)

MODEL	**INDOOR UNIT**			MCM020DR	MCM025DR	MCM030DR	MCM040DR	MCM050DR
	OUTDOOR UNIT			M4LC020BR	M4LC025BR	M4LC030CR	M4LC040CR	M4LC050CR
NOMINAL			**kcal/h**	4,536	5,170	7,310	9,830	12,100
COOLING			**W**	5,274	6,008	8,499	11,430	14,068
CAPACITY			**Btu/h**	18,000	20,500	29,000	39,000	48,000
NOMINAL			**kcal/h**	4,790	6,050	7,812	10,332	12,600
HEATING			**W**	5,569	7,034	9,083	12,013	14,654
CAPACITY			**Btu/h**	19,000	24,000	31,000	41,000	50,000
INDOOR UNIT	**POWER SOURCE**		**V/Ph/Hz**	220 - 240 / 1 / 50				
	REFRIGERANT / CONTROL			R407C / CAPILLARY (OUTDOOR)		R407C / CAPILLARY TUBE (OUTDOOR) + (TXV)		
	FAN	**AIR FLOW**	**cfm/cmm**	590 / 16.7	660 / 18.7	730 / 20.7	1,110 / 31.4	1,110 / 31.4
		FAN MOTOR		4 POLES x 45W	4 POLES x 95W	4 POLES x 95W	4 POLES x 145W	4 POLES x 145W
		RATED INPUT POWER	**W**	96	130	132	240	240
		RATED RUNNING CURRENT	**A**	0.40	0.58	0.58	1.04	1.04
	COIL	**TUBE** **MATERIAL**		S.B.C.		S.I.G.C	S.B.C.	S.I.G.C
		TUBE **DIAMETER**	**mm/in**	9.52 / 3/8				
		TUBE **THICKNESS**	**mm/in**	0.35 / 0.014				
		FIN **MATERIAL**		ALUMINIUM			ALUMINIUM (HYDROPHILIC)	
		FIN **THICKNESS**	**mm/in**	0.11 / 0.0043				
		FIN **ROW**		3	3	3	4	4
		FIN **FIN PER INCH**		12	12	12	12	12
	FACE AREA		**m^2/ft^2**	0.19 / 2.06	0.19 / 2.06	0.24 / 2.58	0.36 / 3.95	0.36 / 3.95
	DIMENSION	**HEIGHT**	**mm/in**	214 / 8.42	214 / 8.42	249 / 9.80	249 / 9.80	249 / 9.80
		WIDTH	**mm/in**	1,214 / 47.80	1,214 / 47.80	1,214 / 47.80	1,714 / 67.40	1,714 / 67.40
		DEPTH	**mm/in**	670 / 26.30	670 / 26.30	670 / 26.30	670 / 26.30	670 / 26.30
	WEIGHT		**kg**	43	43	45	70	70
	CONTROL	**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT				
		AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL LOUVER (BOTTOM)				
		OPERATION		LCD WIRELESS MICROCOMPUTER REMOTE CONTROL				
	CONDENSATE DRAIN SIZE		**mm/in**	19.05 / 3/4				
	AIR FILTER			WASHABLE SARAN NET (OPTIONAL IONIZER FILTER)				
	PACKING DIMENSION	**HEIGHT**	**mm/in**	301 / 11.9		345 / 13.6	345 / 13.6	
		WIDTH	**mm/in**	1,311 / 51.6		1,361 / 53.5	1,816 / 71.4	
		DEPTH	**mm/in**	760 / 29.9		760 / 29.9	760 / 29.9	
OUTDOOR UNIT	**POWER SOURCE**		**V/Ph/Hz**	220 - 240 / 1 / 50			380 - 420 / 3 / 50	
	COMP.	**COMPRESSOR TYPE**		ROTARY HERMETIC		SCROLL		
		CAPACITOR	**µF**	45	50	50	NIL	NIL
		LOCK ROTOR AMP.	**A**	54	58	78	45	62
		RATED RUNNING CURRENT (COOLING)	**A**	9.5	12.6	11.5	6.2	8.8
		RATED RUNNING CURRENT (HEATING)	**A**	10.1	12.5	11.4	5.9	7.8
		RATED INPUT POWER (COOLING)	**W**	2,002	2,571	2,424	3,565	4,615
		RATED INPUT POWER (HEATING)	**W**	2,096	2,549	2,407	3,280	3,734
		PROTECTION DEVICE		OVERLOAD PROTECTION				
	FAN	**FAN TYPE / DRIVE**		PROPELLER / DIRECT				
		BLADE MATERIAL		GLASS REINFORCED ACRYL STYRENE RESIN				
		DIAMETER	**mm/in**	420.0 / 16.5		609.6 / 24.0		
		RATED RUNNING CURRENT	**A**	0.56		1.09		
		RATED OUTPUT POWER	**W**	55		145		
		RATED INPUT POWER	**W**	133		241		
	COIL	**TUBE** **MATERIAL**		SEAMLESS COPPER				
		TUBE **DIAMETER**	**mm/in**	9.52 / 3/8				
		TUBE **THICKNESS**	**mm/in**	0.36 / 0.014				
		FIN **MATERIAL**		ALUMINIUM (SLIT FIN TYPE)				
		FIN **THICKNESS**	**mm/in**	0.127 / 0.005				
		FIN **ROW**		2		2		
		FIN **FIN PER INCH**		14		16		
	FACE AREA		**m^2/ft^2**	0.51 / 5.53		0.87 / 9.33		
	DIMENSION	**HEIGHT**	**mm/in**	646 / 25.40		850 / 33.46		
		WIDTH	**mm/in**	840 / 33.10		1,029 / 40.53		
		DEPTH	**mm/in**	330 / 13.00		400 / 15.75		
	WEIGHT		**kg**	57	58	92.5	98.9	115
	CASING	**MATERIAL**		GALVANISED MILD STEEL				
		THICKNESS	**mm/in**	0.8 / 0.031		1.0-2.3 / 0.0393-0.0905		
		FINISHING		EPOXY POLYESTER POWDER				
	SOUND PRESSURE LEVEL		**dBA**	52	53	59	59	59
	PIPE	**TYPE**		FLARE VALVE / AEROQUIP		FLARE VALVE		
		SIZE **LIQUID**	**mm/in**	6.35 / 1/4	9.52 / 3/8		9.52 / 5/8	
		SIZE **GAS**	**mm/in**	15.88 / 5/8	15.88 / 5/8		19.05 / 3/4	
	PACKING DIMENSION	**HEIGHT**	**mm/in**	710 / 27.95		1,000 / 39.37		
		WIDTH	**mm/in**	957 / 37.68		1,200 / 47.24		
		DEPTH	**mm/in**	461 / 18.15		560 / 22.05		
	REFRIGERANT CHARGE		**kg**	1.70	1.65	2.35	3.10	3.35

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-89
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR

Abbreviation

S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

Cooling Only (R407C)

MODEL			INDOOR UNIT		MCM061C	
			OUTDOOR UNIT		M4LC60C	M4LC061C
NOMINAL COOLING CAPACITY				kcal/h	13860	13610
				W	16120	15830
				Btu/h	55000	54000
NOMINAL TOTAL POWER				W	6027	5645
NOMINAL TOTAL CURRENT				A	10.2	9.5
INDOOR UNIT	POWER SOURCE			V/Ph/Hz	220 - 240 / 1 / 50	
	REFRIGERANT / CONTROL				R407C / CAPILLARY TUBE IN INDOOR	
	FAN	AIR FLOW		cfm / L/s	1550 / 732	
		SOUND LEVEL (dBA)		HIGH	56	
				MED	53	
				LOW	46	
		FAN MOTOR			2 x 4 POLES x 80 W	
		RATED INPUT POWER		W	327	
		RATED RUNNING CURRENT		A	1.40	
	COIL	TUBE	MATERIAL		S.I.G.C	
			DIAMETER	mm/in	9.52 / 3/8	
			THICKNESS	mm/in	0.35 / 0.014	
		FIN	MATERIAL		ALUMINIUM	
			THICKNESS	mm/in	0.11 / 0.0043	
			ROW		4	
			FIN PER INCH		14	
		FACE AREA		m^2/ft^2	0.42 / 4.51	
	DIMENSION		HEIGHT	mm/in	285 / 11.2	
			WIDTH	mm/in	1874 / 73.8	
			DEPTH	mm/in	666 / 26.2	
	WEIGHT			kg	85	
	CONTROL		ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT	
			OPERATION		LCD WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	CONDENSATE DRAIN SIZE			mm/in	19.05 / 3/4	
	AIR FILTER				WASHABLE SARAN NET	
	PACKING DIMENSION		HEIGHT	mm/in	368 / 14.5	
			WIDTH	mm/in	1992 / 78.4	
			DEPTH	mm/in	760 / 29.9	
OUTDOOR UNIT	COMPRESSOR	POWER SOURCE		V/Ph/Hz	415 / 3 / 50	
		COMPRESSOR TYPE			SCROLL	
		CAPACITOR		µF	-	-
		LOCK ROTOR AMP.		A	74	74
		RATED RUNNING CURRENT		A	8.8	8.6
		RATED INPUT POWER		W	5045	5060
		PROTECTION DEVICE			OVERLOAD PROTECTION / HI-LO PRESSURE SWITCH	
	FAN	POWER SOURCE		V/Ph/Hz	220 - 240 / 1 / 50	
		FAN TYPE / DRIVE			PROPELLER / DIRECT	
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYLENE RESIN	
		DIAMETER		mm/in	600 / 24	
		RATED RUNNING CURRENT		A	2.8	1.2
		MOTOR OUTPUT		W	400	400
		RATED INPUT POWER		W	655	258
	COIL	TUBE	MATERIAL		S.I.G.C	
			DIAMETER	mm/in	9.52 / 3/8	
			THICKNESS	mm/in	0.35 / 0.014	
		FIN	MATERIAL		ALUMINIUM (CORR.)	
			THICKNESS	mm/in	0.127 / 0.005	
			ROW		2	3
			FIN PER INCH		16	14
		FACE AREA		m^2/ft^2	0.87 / 9.33	0.84 / 9.04
	DIMENSION		HEIGHT	mm/in	850 / 33.5	850 / 33.5
			WIDTH	mm/in	1030 / 40.6	1030 / 40.6
			DEPTH	mm/in	400 / 15.7	460 / 18.1
	WEIGHT			kg	105	108
	CASING		MATERIAL		ELECTRO GALVANIZED MILD STEEL	
			THICKNESS	mm/in	1.0 - 2.3 (0.0393 -0.0905)	
			FINISHING		EPOXY POLYESTER POWDER COATING	
	SOUND PRESSURE LEVEL			dBA	71	61
	PIPE	TYPE			FLARE VALVE	
		SIZE	LIQUID	mm/in	12.7 / 1/2	
			GAS	mm/in	19.05 / 3/4	
	PACKING DIMENSION		HEIGHT	mm/in	1000 /39.4	1016 / 40.0
			WIDTH	mm/in	1200 / 47.2	1178 / 46.4
			DEPTH	mm/in	560 / 22.0	602 / 23.7

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation

S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

Cooling Only (R407C)

MODEL				**INDOOR UNIT**		MCM062C	
				OUTDOOR UNIT		M4LC060C	M4LC061C
NOMINAL COOLING CAPACITY					**kcal/h**	13860	13610
					W	16120	15830
					Btu/h	55000	54000
NOMINAL TOTAL POWER					**W**	6027	5645
NOMINAL TOTAL CURRENT					**A**	10.2	9.5
INDOOR UNIT	**POWER SOURCE**				**V/Ph/Hz**	220 - 240 / 1 / 50	
	REFRIGERANT / CONTROL					R407C / CAPILLARY TUBE IN INDOOR	
	FAN	**AIR FLOW**			**cfm / L/s**	1550 / 732	
		SOUND LEVEL (dBA)			**HIGH**	56	
					MED	53	
					LOW	46	
		FAN MOTOR				2 x 4 POLES x 80 W	
		RATED INPUT POWER			**W**	327	
		RATED RUNNING CURRENT			**A**	1.40	
	COIL	**TUBE**	**MATERIAL**			S.I.G.C	
			DIAMETER		**mm/in**	9.52 / 3/8	
			THICKNESS		**mm/in**	0.35 / 0.014	
		FIN	**MATERIAL**			ALUMINIUM	
			THICKNESS		**mm/in**	0.11 / 0.0043	
			ROW			4	
			FIN PER INCH			14	
		FACE AREA			**m^2/ft^2**	0.42 / 4.51	
	DIMENSION			**HEIGHT**	**mm/in**	285 / 11.2	
				WIDTH	**mm/in**	1903 / 74.9	
				DEPTH	**mm/in**	680 / 26.8	
	WEIGHT				**kg**	85	
	CONTROL			**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT	
				OPERATION		LCD WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL	
	CONDENSATE DRAIN SIZE				**mm/in**	19.05 / 3/4	
	AIR FILTER					WASHABLE SARAN NET	
	PACKING DIMENSION			**HEIGHT**	**mm/in**	368 / 14.5	
				WIDTH	**mm/in**	1984 / 78.1	
				DEPTH	**mm/in**	760 / 29.9	
OUTDOOR UNIT	**COMPRESSOR**	**POWER SOURCE**			**V/Ph/Hz**	415 / 3 / 50	
		COMPRESSOR TYPE				SCROLL	
		CAPACITOR			**µF**	-	-
		LOCK ROTOR AMP.			**A**	74	74
		RATED RUNNING CURRENT			**A**	8.8	8.6
		RATED INPUT POWER			**W**	5045	5060
		PROTECTION DEVICE				OVERLOAD PROTECTION / HI-LO PRESSURE SWITCH	
	FAN	**POWER SOURCE**			**V/Ph/Hz**	220 - 240 / 1 / 50	
		FAN TYPE / DRIVE				PROPELLER / DIRECT	
		BLADE MATERIAL				GLASS REINFORCED ACRLY STYLENE RESIN	
		DIAMETER			**mm/in**	600 / 24	
		RATED RUNNING CURRENT			**A**	2.8	1.2
		MOTOR OUTPUT			**W**	400	400
		RATED INPUT POWER			**W**	655	258
	COIL	**TUBE**	**MATERIAL**			S.I.G.C	
			DIAMETER		**mm/in**	9.52 / 3/8	
			THICKNESS		**mm/in**	0.35 / 0.014	
		FIN	**MATERIAL**			ALUMINIUM (CORR.)	
			THICKNESS		**mm/in**	0.127 / 0.005	
			ROW			2	3
			FIN PER INCH			16	14
		FACE AREA			**m^2/ft^2**	0.87 / 9.33	0.84 / 9.04
	DIMENSION			**HEIGHT**	**mm/in**	850 / 33.5	850 / 33.5
				WIDTH	**mm/in**	1030 / 40.6	1030 / 40.6
				DEPTH	**mm/in**	400 / 15.7	460 / 18.1
	WEIGHT				**kg**	105	108
	CASING			**MATERIAL**		ELECTRO GALVANIZED MILD STEEL	
				THICKNESS	**mm/in**	1.0 - 2.3 (0.0393 -0.0905)	
				FINISHING		EPOXY POLYESTER POWDER COATING	
	SOUND PRESSURE LEVEL				**dBA**	71	61
	PIPE	**TYPE**				FLARE VALVE	
		SIZE		**LIQUID**	**mm/in**	12.7 / 1/2	
				GAS	**mm/in**	19.05 / 3/4	
	PACKING DIMENSION			**HEIGHT**	**mm/in**	1000 /39.4	1016 / 40.0
				WIDTH	**mm/in**	1200 / 47.2	1178 / 46.4
				DEPTH	**mm/in**	560 / 22.0	602 / 23.7

*** not suitable for high ambient application**

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR

Abbreviation

S.B.C. - SEAMLESS BARE COPPER
S.I.G.C - SEAMLESS INNER GROOVE COPPER

Heat Pump (R407C)

MODEL				**INDOOR UNIT**		MCM061CR
				OUTDOOR UNIT		M4LC061CR
NOMINAL HEATING CAPACITY					**kcal/h**	14110
					W	16410
					Btu/h	56000
NOMINAL COOLING CAPACITY					**kcal/h**	13610
					W	15830
					Btu/h	54000
NOMINAL TOTAL POWER (COOLING)					**W**	5645
NOMINAL TOTAL POWER (HEATING)					**W**	5145
NOMINAL TOTAL CURRENT (COOLING)					**A**	9.5
NOMINAL TOTAL CURRENT (HEATING)					**A**	9.0
INDOOR UNIT	**POWER SOURCE**				**V/Ph/Hz**	220 - 240 / 1 / 50
	REFRIGERANT / CONTROL					R22 / CAPILLARY TUBE - INDOOR (COOLING), OUTDOOR (HEATING)
	FAN	**AIR FLOW**			**cfm / L/s**	1550 / 732
		SOUND LEVEL (dBA)			**HIGH**	56
					MED	53
					LOW	46
		FAN MOTOR				2 x 4 POLES x 80 W
		RATED INPUT POWER			**W**	327
		RATED RUNNING CURRENT			**A**	1.40
	COIL	**TUBE**	**MATERIAL**			S.I.G.C
			DIAMETER		**mm/in**	9.52 / 3/8
			THICKNESS		**mm/in**	0.35 / 0.014
		FIN	**MATERIAL**			ALUMINIUM
			THICKNESS		**mm/in**	0.11 / 0.0043
			ROW			4
			FIN PER INCH			14
		FACE AREA			**m^2/ft^2**	0.42 / 4.51
	DIMENSION			**HEIGHT**	**mm/in**	285 / 11.2
				WIDTH	**mm/in**	1874 / 73.8
				DEPTH	**mm/in**	666 / 26.2
	WEIGHT				**kg**	85
	CONTROL			**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT
				OPERATION		LCD WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL
	CONDENSATE DRAIN SIZE				**mm/in**	19.05 / 3/4
	AIR FILTER					WASHABLE SARAN NET
	PACKING DIMENSION			**HEIGHT**	**mm/in**	368 / 14.5
				WIDTH	**mm/in**	1992 / 78.4
				DEPTH	**mm/in**	760 / 29.9
OUTDOOR UNIT	**COMPRESSOR**	**POWER SOURCE**			**V/Ph/Hz**	415 / 3 / 50
		COMPRESSOR TYPE				SCROLL
		CAPACITOR			**µF**	-
		LOCK ROTOR AMP.			**A**	74.0
		RATED RUNNING CURRENT (COOLING			**A**	8.6
		RATED RUNNING CURRENT (HEATING			**A**	8.1
		RATED INPUT POWER (COOLING)			**W**	5060
		RATED INPUT POWER (HEATING)			**W**	4560
		PROTECTION DEVICE				OVERLOAD PROTECTION / HI PRESSURE SWITCH
	FAN	**POWER SOURCE**			**V/Ph/Hz**	220 - 240 / 1 / 50
		FAN TYPE / DRIVE				PROPELLER / DIRECT
		BLADE MATERIAL				GLASS REINFORCED ACRLY STYLENE RESIN
		DIAMETER			**mm/in**	600 / 24
		RATED RUNNING CURRENT			**A**	1.2
		MOTOR OUTPUT			**W**	400
		RATED INPUT POWER			**W**	258
	COIL	**TUBE**	**MATERIAL**			S.I.G.C
			DIAMETER		**mm/in**	9.52 / 3/8
			THICKNESS		**mm/in**	0.35 / 0.014
		FIN	**MATERIAL**			ALUMINIUM (CORRUGATED)
			THICKNESS		**mm/in**	0.127 / 0.005
			ROW			3
			FIN PER INCH			14
		FACE AREA			**m^2/ft^2**	0.84 / 9.04
	DIMENSION			**HEIGHT**	**mm/in**	850 / 33.5
				WIDTH	**mm/in**	1030 / 40.6
				DEPTH	**mm/in**	460 / 18.1
	WEIGHT				**kg**	108
	CASING			**MATERIAL**		ELECTRO GALVANIZED MILD STEEL
				THICKNESS	**mm/in**	1.0 - 2.3 (0.0393 -0.0905)
				FINISHING		EPOXY POLYESTER POWDER COATING
	SOUND PRESSURE LEVEL				**dBA**	61
	PIPE	**TYPE**				FLARE VALVE
		SIZE		**LIQUID**	**mm/in**	12.7 / 1/2
				GAS	**mm/in**	19.05 / 3/4
	PACKING DIMENSION			**HEIGHT**	**mm/in**	1016 / 40.0
				WIDTH	**mm/in**	1178 / 46.4
				DEPTH	**mm/in**	602 / 23.7

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR
b) HEATING - 21.0°C DB INDOOR AND -8.3°C DB / -9.4°C WB OUTDOOR TO 26.7°C DB INDOOR AND 23.9°C DB / 18.3°C WB

Abbreviation

S.B.C. - **SEAMLESS BARE COPPER**
S.I.G.C - *SEAMLESS INNER GROOVE COPPER*

Heat Pump (R407C)

MODEL				**INDOOR UNIT**		MCM062CR
				OUTDOOR UNIT		M4LC061CR
NOMINAL					**kcal/h**	14110
HEATING					**W**	16410
CAPACITY					**Btu/h**	56000
NOMINAL					**kcal/h**	13610
COOLING					**W**	15830
CAPACITY					**Btu/h**	54000
NOMINAL TOTAL POWER (COOLING)					**W**	5645
NOMINAL TOTAL POWER (HEATING)					**W**	5145
NOMINAL TOTAL CURRENT (COOLING)					**A**	9.5
NOMINAL TOTAL CURRENT (HEATING)					**A**	9.0
INDOOR UNIT	**POWER SOURCE**				**V/Ph/Hz**	220 - 240 / 1 / 50
	REFRIGERANT / CONTROL					R22 / CAPILLARY TUBE - INDOOR (COOLING), OUTDOOR (HEATING)
	FAN	**AIR FLOW**			**cfm / L/s**	1550 / 732
		SOUND LEVEL (dBA)			**HIGH**	56
					MED	53
					LOW	46
		FAN MOTOR				2 x 4 POLES x 80 W
		RATED INPUT POWER			**W**	327
		RATED RUNNING CURRENT			**A**	1.40
	COIL	**TUBE**	**MATERIAL**			S.I.G.C
			DIAMETER		**mm/in**	9.52 / 3/8
			THICKNESS		**mm/in**	0.35 / 0.014
		FIN	**MATERIAL**			ALUMINIUM
			THICKNESS		**mm/in**	0.11 / 0.0043
			ROW			4
			FIN PER INCH			14
		FACE AREA			**m^2/ft^2**	0.42 / 4.51
	DIMENSION			**HEIGHT**	**mm/in**	285 / 11.2
				WIDTH	**mm/in**	1903 / 74.9
				DEPTH	**mm/in**	680 / 26.8
	WEIGHT				**kg**	85
	CONTROL			**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT
				OPERATION		LCD WIRELESS OR WIRED MICROCOMPUTER REMOTE CONTROL
	CONDENSATE DRAIN SIZE				**mm/in**	19.05 / 3/4
	AIR FILTER					WASHABLE SARAN NET
	PACKING DIMENSION			**HEIGHT**	**mm/in**	368 / 14.5
				WIDTH	**mm/in**	1984 / 78.1
				DEPTH	**mm/in**	760 / 29.9
OUTDOOR UNIT	**COMPRESSOR**	**POWER SOURCE**			**V/Ph/Hz**	415 / 3 / 50
		COMPRESSOR TYPE				SCROLL
		CAPACITOR			**µF**	-
		LOCK ROTOR AMP.			**A**	74.0
		RATED RUNNING CURRENT (COOLING			**A**	8.6
		RATED RUNNING CURRENT (HEATING			**A**	8.1
		RATED INPUT POWER (COOLING)			**W**	5060
		RATED INPUT POWER (HEATING)			**W**	4560
		PROTECTION DEVICE				OVERLOAD PROTECTION / HI PRESSURE SWITCH
	FAN	**POWER SOURCE**			**V/Ph/Hz**	220 - 240 / 1 / 50
		FAN TYPE / DRIVE				PROPELLER / DIRECT
		BLADE MATERIAL				GLASS REINFORCED ACRLY STYLENE RESIN
		DIAMETER			**mm/in**	600 / 24
		RATED RUNNING CURRENT			**A**	1.2
		MOTOR OUTPUT			**W**	400
		RATED INPUT POWER			**W**	258
	COIL	**TUBE**	**MATERIAL**			S.I.G.C
			DIAMETER		**mm/in**	9.52 / 3/8
			THICKNESS		**mm/in**	0.35 / 0.014
		FIN	**MATERIAL**			ALUMINIUM (CORRUGATED)
			THICKNESS		**mm/in**	0.127 / 0.005
			ROW			3
			FIN PER INCH			14
		FACE AREA			**m^2/ft^2**	0.84 / 9.04
	DIMENSION			**HEIGHT**	**mm/in**	850 / 33.5
				WIDTH	**mm/in**	1030 / 40.6
				DEPTH	**mm/in**	460 / 18.1
	WEIGHT				**kg**	108
	CASING			**MATERIAL**		ELECTRO GALVANIZED MILD STEEL
				THICKNESS	**mm/in**	1.0 - 2.3 (0.0393 -0.0905)
				FINISHING		EPOXY POLYESTER POWDER COATING
	SOUND PRESSURE LEVEL				**dBA**	61
	PIPE	**TYPE**				FLARE VALVE
		SIZE		**LIQUID**	**mm/in**	12.7 / 1/2
				GAS	**mm/in**	19.05 / 3/4
	PACKING DIMENSION			**HEIGHT**	**mm/in**	1016 / 40.0
				WIDTH	**mm/in**	1178 / 46.4
				DEPTH	**mm/in**	602 / 23.7

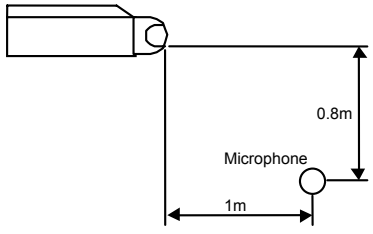
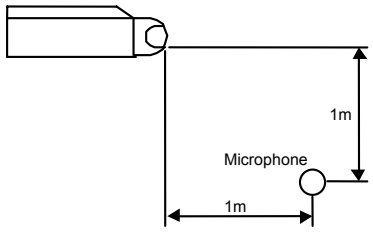
1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94
3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) ALLOWABLE OPERATING RANGE
a) COOLING - 19.4°C DB / 13.9°C WB INDOOR AND 19.4°C DB OUTDOOR TO 26.7°C DB / 19.4°C WB INDOOR AND 46.1°C DB OUTDOOR
b) HEATING - 21.0°C DB INDOOR AND -8.3°C DB / -9.4°C WB OUTDOOR TO 26.7°C DB INDOOR AND 23.9°C DB / 18.3°C WB

Abbreviation

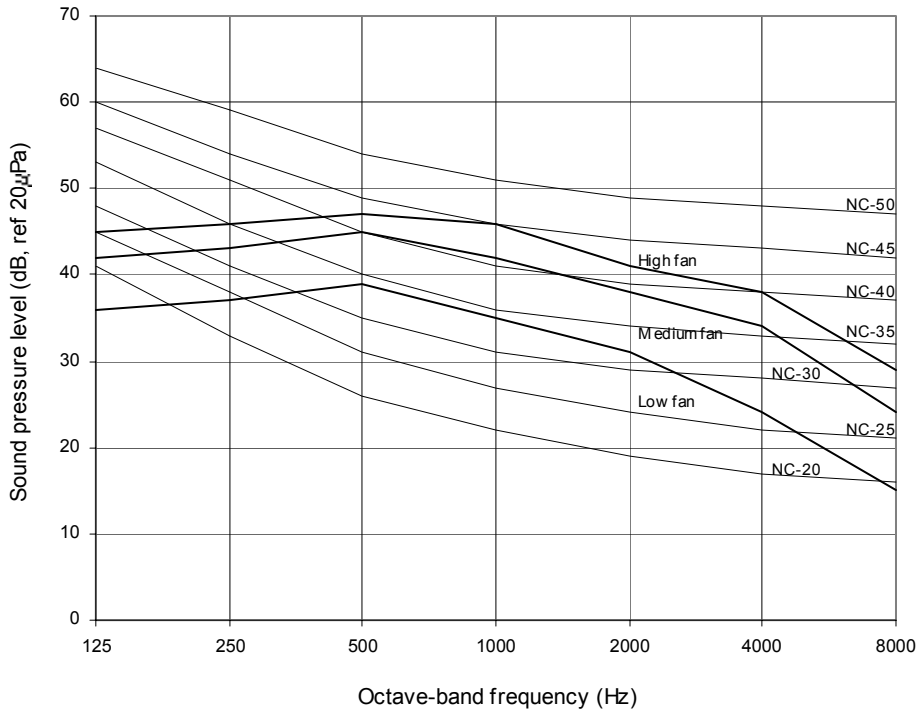
S.B.C. - **SEAMLESS BARE COPPER**
S.I.G.C - *SEAMLESS INNER GROOVE COPPER*

Noise Level

Model	Speed	1/1 Octave Sound pressure level (dB, ref 20μPa)							Overall A (dBA)	Noise Criteria
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
MCM020D/DR	High	45	46	47	46	41	38	29	50	45
	Medium	42	43	45	42	38	34	24	47	41
	Low	36	37	39	35	31	24	15	40	34
MCM025D/DR	High	48	51	51	50	45	41	33	54	49
	Medium	47	50	50	49	44	40	32	53	48
	Low	45	47	48	47	41	36	27	50	46
MCM030D/DR	High	45	48	48	47	43	33	24	51	46
	Medium	44	47	47	46	42	32	23	50	45
	Low	43	45	45	44	39	29	20	48	43
MCM040D/DR	High	51	53	51	50	47	37	30	54	49
	Medium	48	51	50	49	46	36	28	53	48
	Low	46	50	49	48	44	35	27	52	47
MCM050D/DR	High	51	53	51	50	47	37	30	54	49
	Medium	48	51	50	49	46	36	28	53	48
	Low	46	50	49	48	44	35	27	52	47
MCM061/62 C/CR	High	34	45	49	52	49	44	37	56	51
	Medium	32	43	46	49	46	41	33	53	48
	Low	26	36	40	42	38	32	24	46	41

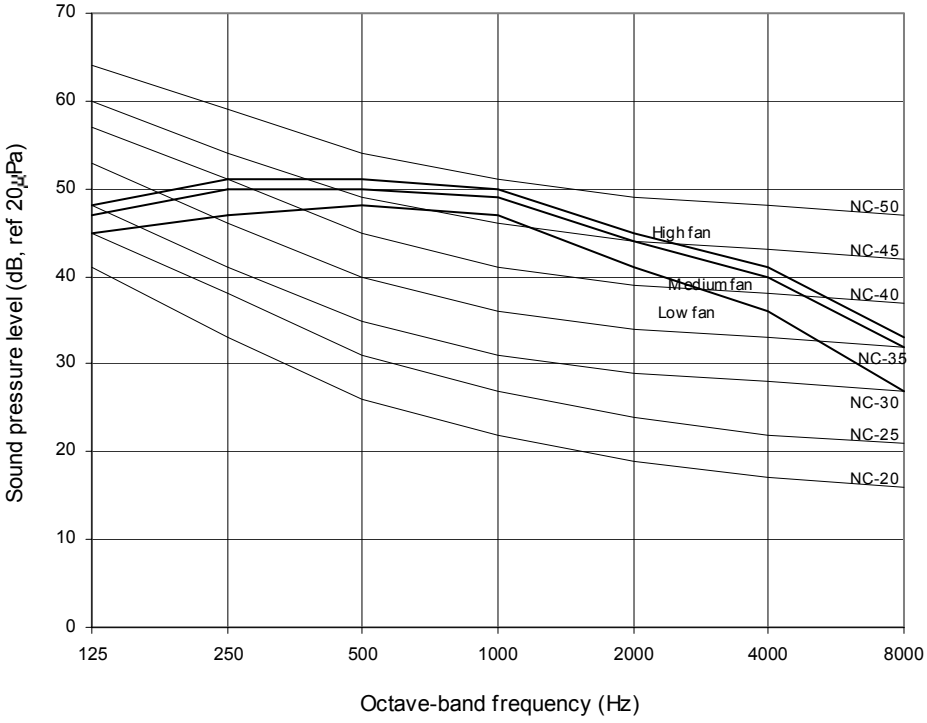
Model	Measuring location
MCM020D/DR MCM025D/DR	 Standard: JIS C 9612
MCM030D/DR MCM040D/DR MCM050D/DR MCM061/62 C/CR	 Standard: JIS B 8615

MCM020D/DR NC Curves



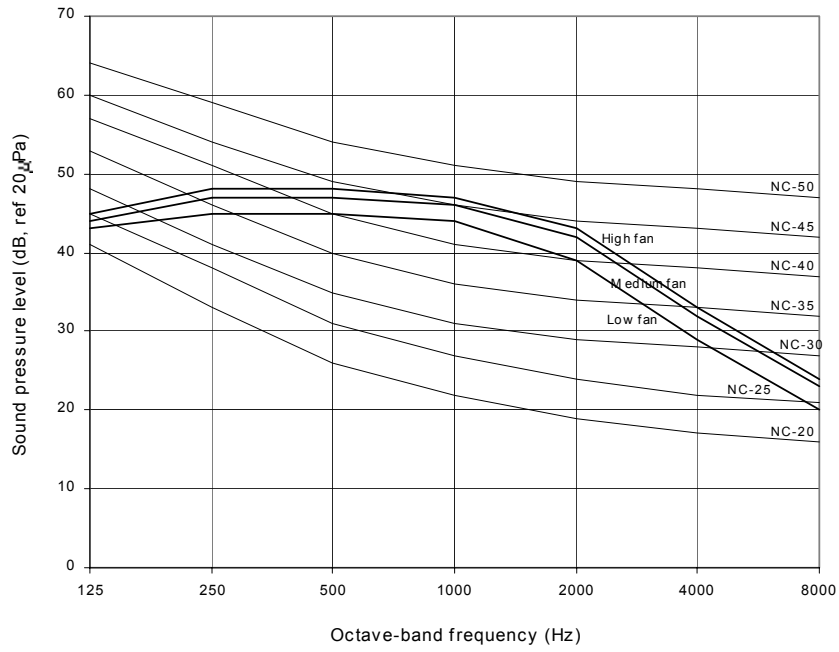
Measured in anechoic room at 1m in front of the unit and 0.8m below the air discharge opening

MCM025D/DR NC Curves



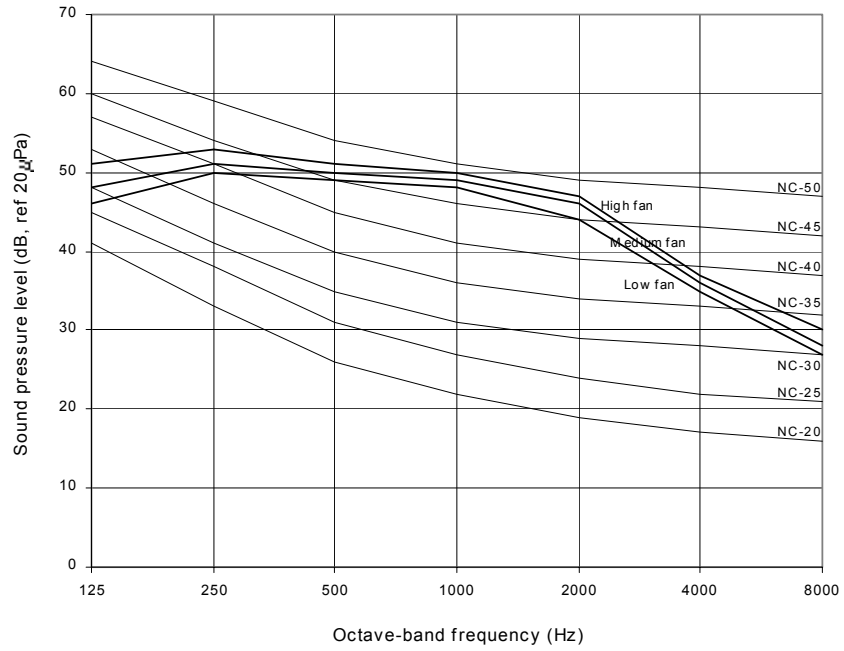
Measured in anechoic room at 1m in front of the unit and 0.8m below the air discharge opening

MCM030D/DR NC Curves



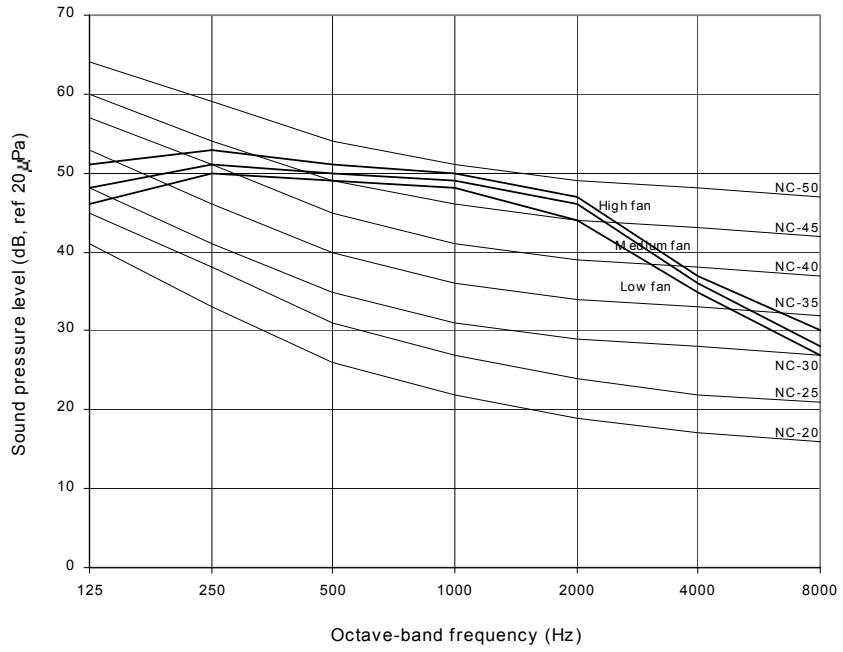
Measured in anechoic room at 1m in front of the unit and 1m below the air discharge opening

MCM040D/DR NC Curves



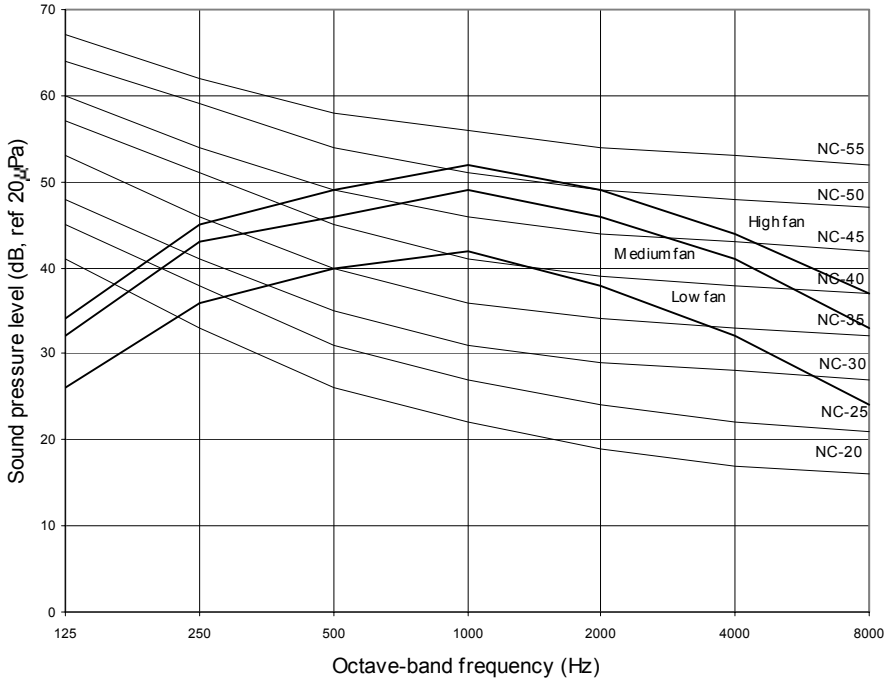
Measured in anechoic room at 1m in front of the unit and 1m below the air discharge opening

MCM050D/DR NC Curves



Measured in anechoic room at 1m in front of the unit and 1m below the air discharge opening

MCM061/62 C/CR NC Curves



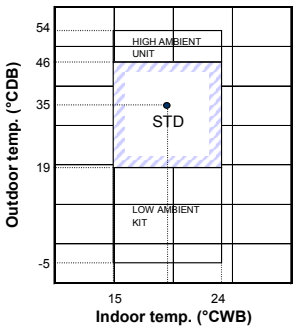
Measured in anechoic room at 1m in front of the unit and 1m below the air discharge

Operating Range

Ensure the operating temperature is in allowable range.

Cooling only

Cooling

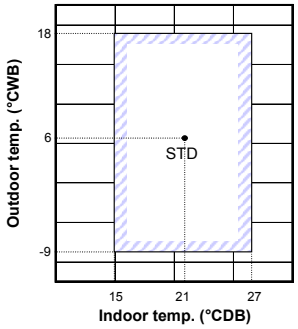


⚠ Caution :

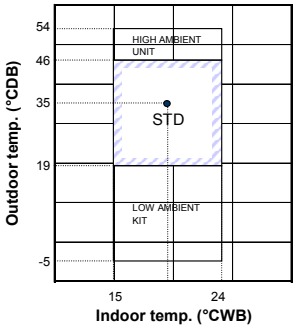
The use of your air conditioner outside the range of working temperature and humidity can result in serious failure.

Heat pump

Heating

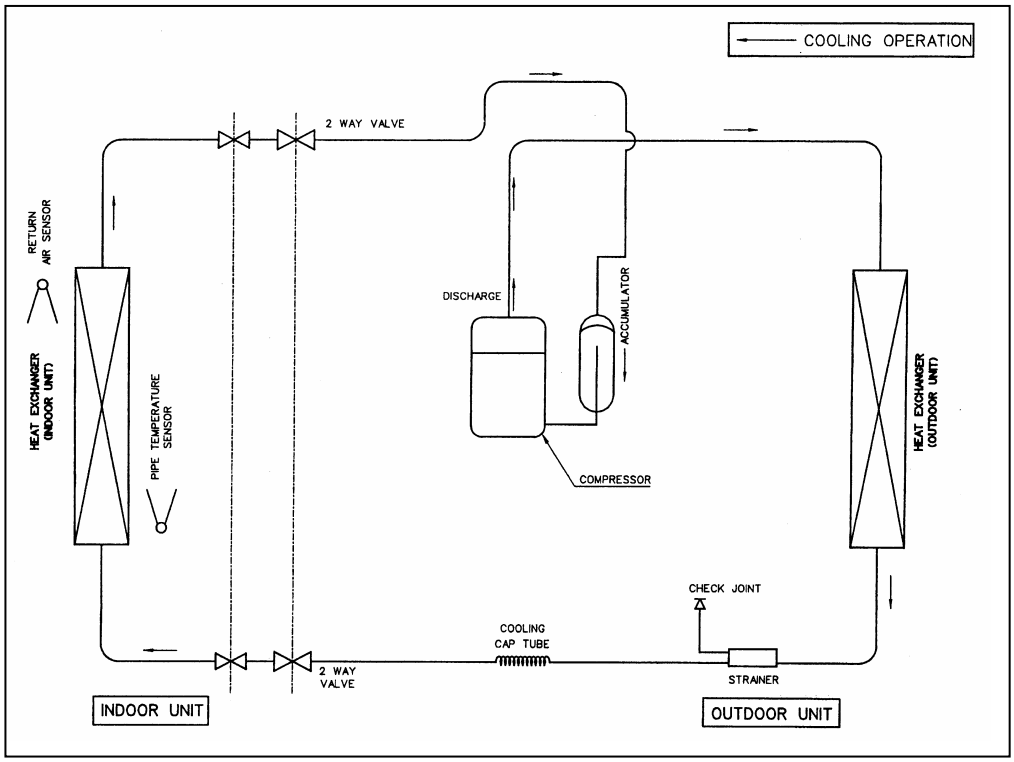


Cooling

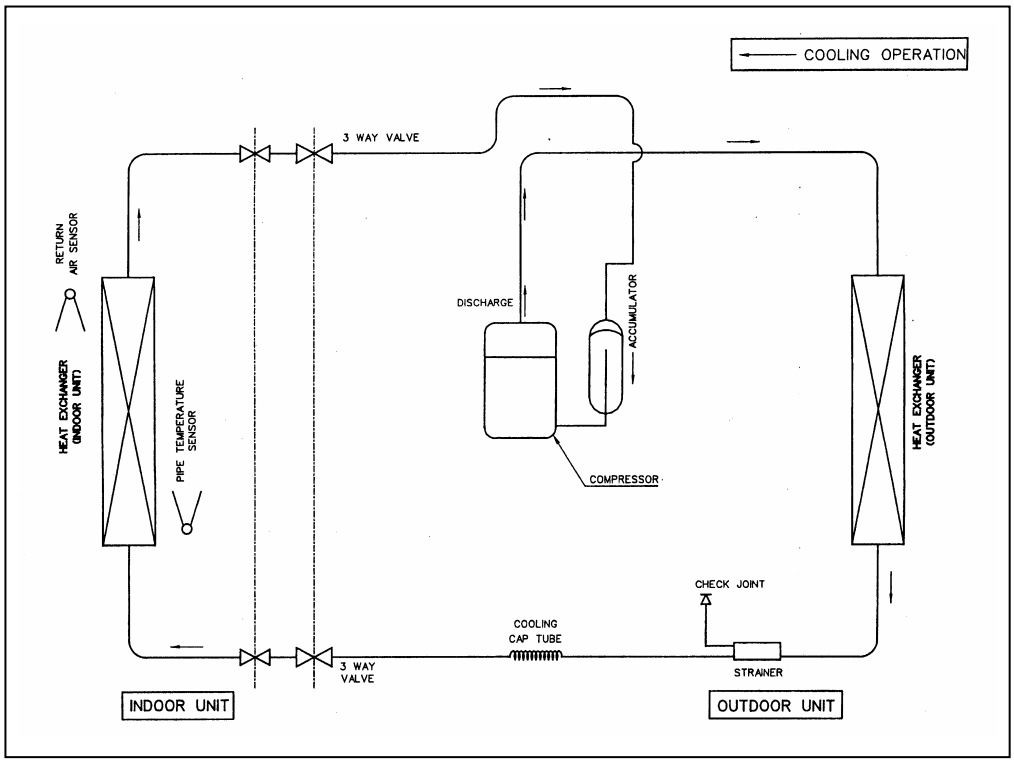


Refrigerant Circuit

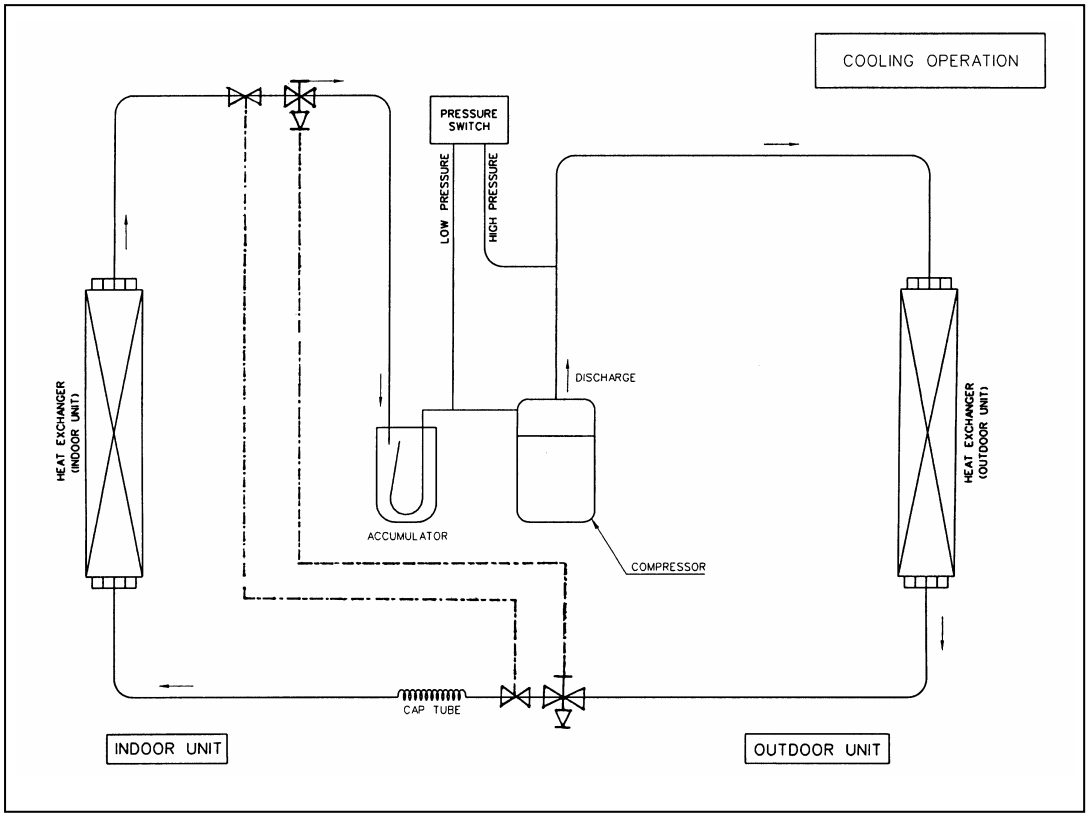
MODEL : MCM020D – MLC/ M4LC020B



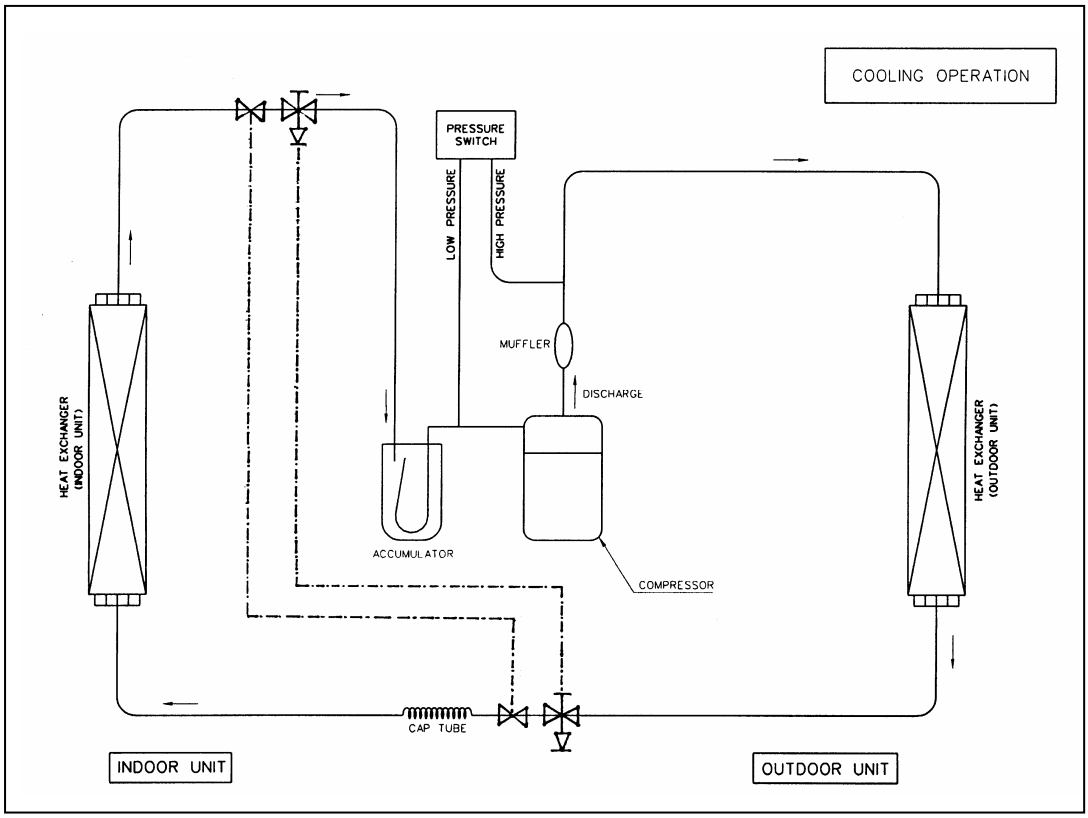
MODEL : MCM025D – MLC/ M4LC025B
MCM030D – M4LC030B



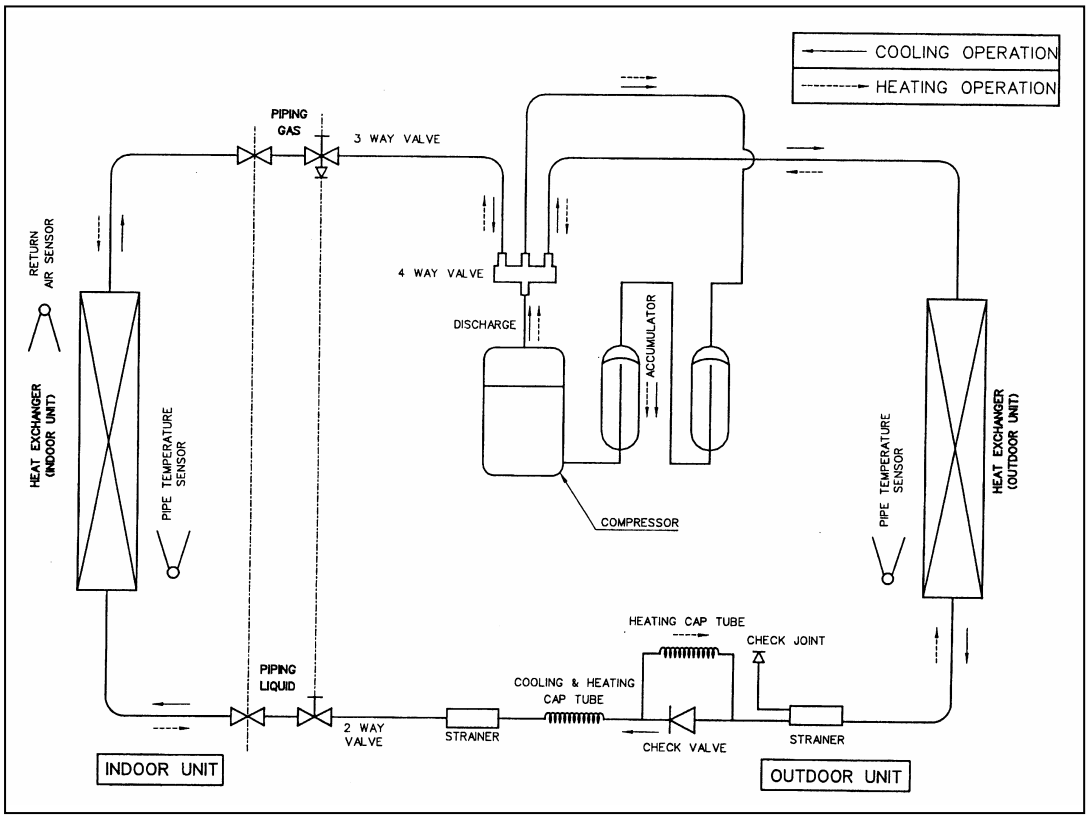
MODEL : MCM030D – MLC/ M4LC030C
MCM040D – MLC035C
MCM040D – MLC/ M4LC040C
MCM050D – MLC/ M4LC050C



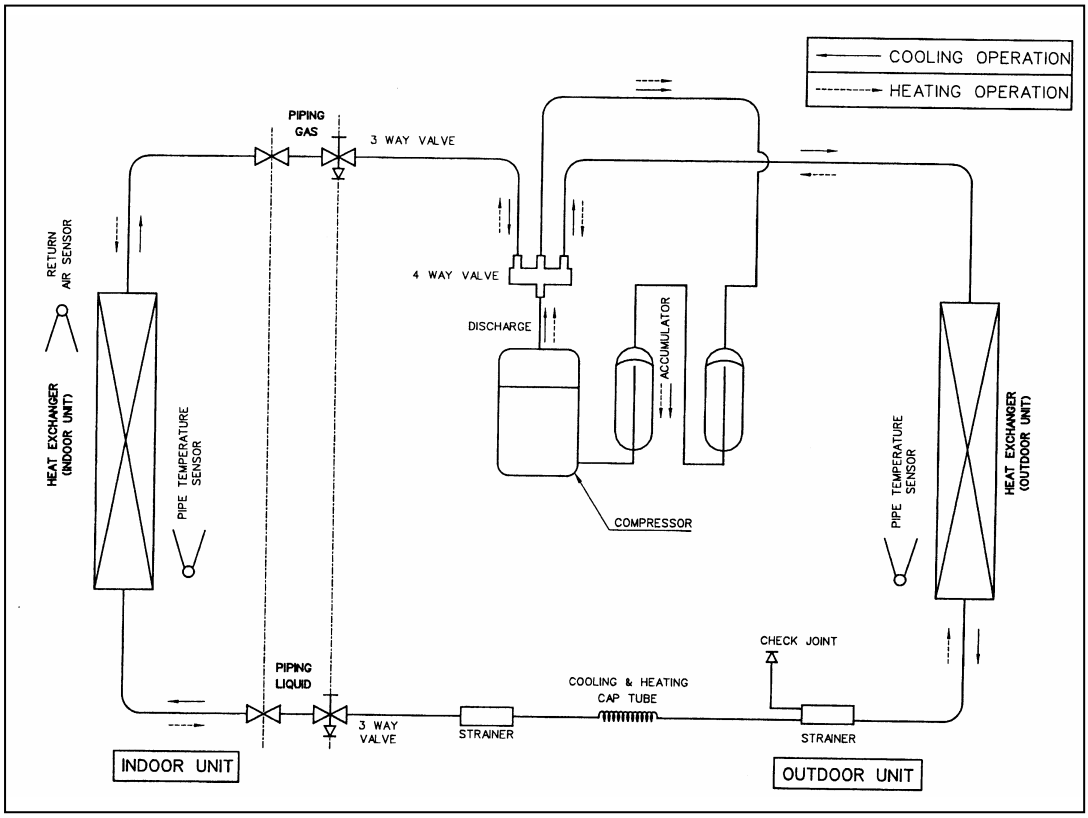
MODEL : MCM061/ 62C – MLC061C, M4LC60C/ 061C



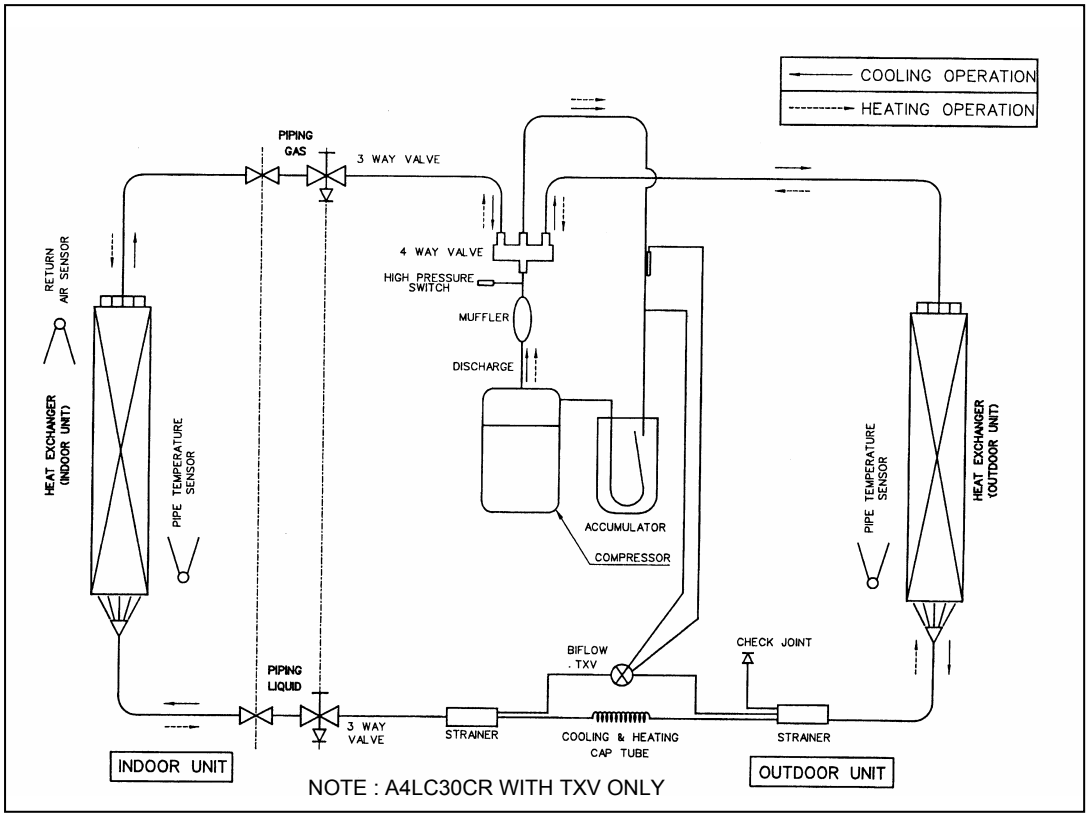
MODEL : MCM020DR – MLC/ M4LC020BR



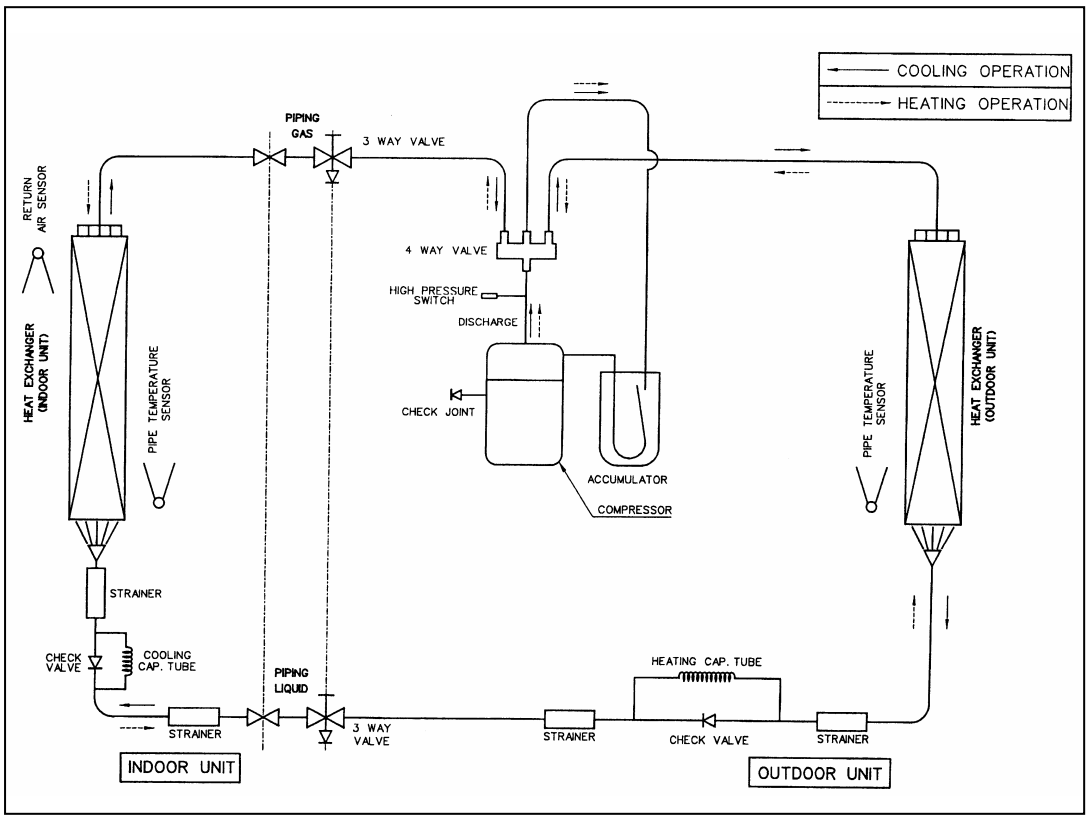
MODEL : MCM025DR – MLC/M4LC025BR
MCM030DR – MLC030BR



MODEL : MCM030DR – MLC/ M4LC030CR
MCM040DR – MLC035CR
MCM040DR – MLC/ M4LC040CR
MCM050DR – MLC/ M4LC050CR



MODEL : MCM061 / 062CR – MLC061C/ M4LC060CR



Performance Table

COOLING ONLY (R22)

MODEL : MCM020D / MLC020B

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	5.144	4.937	4.752	4.568	4.134	3.834	3.689	3.633	3.588
		SC	5.056	4.868	4.700	4.532	4.102	3.804	3.660	3.605	3.560
	15	TC	5.550	5.290	5.058	4.827	4.368	4.052	3.898	3.839	3.791
		SC	4.859	4.688	4.536	4.384	3.968	3.680	3.541	3.487	3.444
	18	TC	6.658	6.254	5.893	5.532	5.007	4.644	4.468	4.400	4.346
		SC	4.319	4.199	4.091	3.983	3.605	3.343	3.217	3.168	3.128
	19.4	TC	7.175	6.704	6.283	5.862	5.305	4.921	4.734	4.662	4.604
		SC	4.068	3.970	3.883	3.795	3.435	3.186	3.065	3.019	2.981
	20	TC	7.397	6.900	6.457	6.014	5.443	5.048	4.857	4.783	4.724
		SC	3.960	3.856	3.764	3.671	3.323	3.082	2.965	2.920	2.884
	22	TC	8.135	7.556	7.039	6.521	5.902	5.474	5.267	5.187	5.122
		SC	3.601	3.478	3.368	3.258	2.949	2.735	2.632	2.591	2.559
	24	TC	8.874	8.212	7.620	7.028	6.361	5.900	5.677	5.590	5.521
		SC	3.241	3.099	2.972	2.845	2.575	2.388	2.298	2.263	2.235
									HIGH AMBIENT		

MODEL : MCM025D / MLC025B

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	6.448	6.186	5.951	5.717	5.541	5.260	5.124	5.073	5.031
		SC	6.015	5.844	5.691	5.538	5.368	5.095	4.964	4.914	4.874
	15	TC	6.956	6.627	6.333	6.039	5.853	5.556	5.413	5.358	5.315
		SC	5.576	5.465	5.366	5.266	5.104	4.845	4.720	4.673	4.635
	18	TC	8.343	7.831	7.374	6.917	6.704	6.364	6.200	6.137	6.087
		SC	4.378	4.431	4.478	4.524	4.385	4.162	4.055	4.014	3.982
	19.4	TC	8.990	8.393	7.860	7.327	7.101	6.740	6.567	6.501	6.448
		SC	3.819	3.948	4.063	4.178	4.050	3.844	3.745	3.707	3.677
	20	TC	9.267	8.639	8.079	7.519	7.287	6.917	6.739	6.671	6.616
		SC	3.579	3.715	3.835	3.956	3.834	3.639	3.546	3.510	3.482
	22	TC	10.191	9.461	8.809	8.157	7.905	7.504	7.311	7.237	7.178
		SC	2.781	2.937	3.077	3.216	3.117	2.959	2.883	2.854	2.830
	24	TC	11.116	10.283	9.539	8.795	8.524	8.091	7.883	7.803	7.740
		SC	1.982	2.160	2.318	2.476	2.400	2.278	2.219	2.197	2.179
									HIGH AMBIENT		

MODEL : MCM030D / MLC030B

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	7.230	6.891	6.588	6.285	5.982	5.618
		SC	7.230	6.891	6.588	6.285	5.982	5.618
	15	TC	7.840	7.399	7.005	6.610	6.216	5.743
		SC	6.943	6.625	6.341	6.056	5.772	5.431
	18	TC	9.505	8.785	8.142	7.499	6.856	6.084
		SC	6.161	5.899	5.666	5.433	5.200	4.920
	19.4	TC	10.282	9.432	8.673	7.913	7.154	6.243
		SC	5.795	5.561	5.352	5.142	4.933	4.682
	20	TC	10.615	9.736	8.950	8.165	7.379	6.437
		SC	5.639	5.404	5.195	4.985	4.776	4.525
	22	TC	11.725	10.748	9.876	9.003	8.131	7.084
		SC	5.117	4.882	4.672	4.462	4.252	4.001
	24	TC	12.835	11.761	10.801	9.842	8.883	7.731
		SC	4.596	4.360	4.150	3.939	3.729	3.476

MODEL : MCM030D / MLC030C

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	7.784	7.460	7.170	6.880	6.550	6.206	5.938	5.792	5.639
		SC	7.088	6.910	6.751	6.592	6.276	5.946	5.689	5.550	5.403
	15	TC	8.383	7.981	7.622	7.263	6.914	6.551	6.268	6.114	5.953
		SC	6.942	6.743	6.566	6.389	6.083	5.763	5.514	5.379	5.236
	18	TC	10.017	9.403	8.854	8.306	7.907	7.492	7.168	6.993	6.807
		SC	6.543	6.289	6.062	5.835	5.555	5.263	5.036	4.913	4.783
	19.4	TC	10.779	10.066	9.429	8.792	8.371	7.931	7.588	7.402	7.206
		SC	6.358	6.077	5.827	5.577	5.309	5.030	4.813	4.695	4.571
	20	TC	11.106	10.357	9.688	9.019	8.587	8.136	7.784	7.593	7.392
		SC	6.278	5.980	5.714	5.448	5.187	4.914	4.702	4.586	4.465
	22	TC	12.195	11.326	10.551	9.775	9.307	8.817	8.437	8.230	8.012
		SC	6.013	5.655	5.337	5.018	4.777	4.526	4.331	4.224	4.113
	24	TC	13.284	12.296	11.414	10.531	10.026	9.499	9.089	8.866	8.632
		SC	5.747	5.331	4.959	4.588	4.368	4.138	3.959	3.862	3.760
									HIGH AMBIENT		

MODEL : MCM040D / MLC035C

Indoor DB ° C	Indoor WB ° C	Capacity kW	Outdoor DB, ° C					
			19.4	25	30	35	40	46
26.7	13.9	TC	9.516	9.046	8.626	8.207	7.787	7.283
		SC	8.545	8.279	8.042	7.805	7.568	7.283
	15	TC	10.375	9.744	9.180	8.617	8.054	7.377
		SC	8.425	8.145	7.896	7.647	7.398	7.098
	18	TC	12.715	11.646	10.691	9.736	8.781	7.635
		SC	8.096	7.780	7.498	7.215	6.933	6.594
	19.4	TC	13.808	12.533	11.396	10.258	9.120	7.755
		SC	7.943	7.610	7.312	7.014	6.716	6.359
	20	TC	14.276	12.965	11.795	10.625	9.455	8.051
		SC	7.877	7.513	7.188	6.863	6.538	6.148
	22	TC	15.836	14.405	13.126	11.848	10.570	9.036
		SC	7.658	7.192	6.776	6.360	5.944	5.445
	24	TC	17.396	15.844	14.458	13.072	11.685	10.022
		SC	7.439	6.871	6.364	5.857	5.350	4.742

MODEL : MCM040D / MLC040C

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	10.091	9.719	9.387	9.054	8.291	7.526	7.240	7.165	7.134
		SC	9.671	9.387	9.134	8.881	8.133	7.382	7.101	7.027	6.997
	15	TC	11.057	10.530	10.059	9.588	8.780	7.970	7.667	7.587	7.555
		SC	9.466	9.182	8.928	8.675	7.944	7.210	6.937	6.864	6.835
	18	TC	13.694	12.742	11.893	11.044	10.113	9.180	8.831	8.739	8.702
		SC	8.907	8.622	8.367	8.113	7.429	6.743	6.487	6.420	6.392
	19.4	TC	14.924	13.775	12.749	11.723	10.736	9.744	9.374	9.277	9.237
		SC	8.646	8.360	8.105	7.850	7.189	6.525	6.277	6.212	6.185
	20	TC	15.451	14.246	13.170	12.093	11.074	10.052	9.670	9.569	9.529
		SC	8.534	8.218	7.935	7.652	7.008	6.361	6.119	6.056	6.030
	22	TC	17.208	15.815	14.571	13.327	12.204	11.077	10.657	10.545	10.500
		SC	8.162	7.742	7.367	6.993	6.404	5.812	5.592	5.534	5.510
	24	TC	18.966	17.384	15.972	14.560	13.333	12.102	11.643	11.522	11.472
		SC	7.789	7.266	6.800	6.333	5.800	5.264	5.064	5.012	4.990
									HIGH AMBIENT		

MODEL : MCM050D / MLC050C

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	12.749	12.256	11.815	11.374	10.717	10.114	9.762	9.601	9.451
		SC	11.176	11.014	10.869	10.724	10.104	9.535	9.204	9.052	8.910
	15	TC	14.011	13.300	12.665	12.030	11.335	10.697	10.325	10.155	9.996
		SC	10.996	10.774	10.575	10.377	9.777	9.227	8.906	8.760	8.622
	18	TC	17.454	16.149	14.984	13.819	13.020	12.288	11.861	11.665	11.482
		SC	10.505	10.119	9.775	9.431	8.886	8.386	8.095	7.961	7.836
	19.4	TC	19.060	17.478	16.066	14.654	13.807	13.031	12.578	12.370	12.176
		SC	10.275	9.814	9.402	8.990	8.470	7.994	7.716	7.589	7.469
	20	TC	19.748	18.098	16.624	15.151	14.275	13.472	13.004	12.789	12.589
		SC	10.177	9.681	9.238	8.796	8.287	7.821	7.549	7.425	7.308
	22	TC	22.043	20.163	18.485	16.806	15.834	14.944	14.424	14.187	13.964
		SC	9.849	9.239	8.694	8.149	7.678	7.246	6.994	6.879	6.771
	24	TC	24.338	22.228	20.345	18.461	17.394	16.416	15.845	15.584	15.339
		SC	9.522	8.797	8.149	7.502	7.068	6.670	6.439	6.332	6.233

MODEL : MCM061/ 062C / MLC061C

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C					
			19.4	25	30	35	40	46
26.7	13.9	TC	15.426	14.631	13.922	13.213	12.504	11.653
		SC	15.426	14.631	13.922	13.213	12.504	11.653
	15	TC	16.454	15.520	14.687	13.853	13.019	12.019
		SC	14.771	14.033	13.374	12.714	12.055	11.264
	18	TC	19.260	17.945	16.772	15.598	14.425	13.016
		SC	12.987	12.401	11.878	11.354	10.830	10.202
	19.4	TC	20.569	19.077	17.745	16.413	15.080	13.482
		SC	12.155	11.639	11.179	10.719	10.259	9.707
	20	TC	21.130	19.590	18.215	16.840	15.465	13.815
		SC	11.798	11.290	10.837	10.383	9.930	9.386
	22	TC	23.001	21.301	19.783	18.265	16.747	14.925
		SC	10.609	10.126	9.695	9.264	8.833	8.316
	24	TC	24.871	23.011	21.350	19.689	18.028	16.035
		SC	9.419	8.962	8.553	8.145	7.736	7.246

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

Sensible capacity (EDB) = Sensible capacity (26.7) + 1.23 x L/s x (1 - BPF) (EDB - 26.7) / 1000

Where, BPF = Bypass factor
EDB = Entering dry bulb temperature, ° C

	MCM020D MLC020B	MCM025D MLC025B	MCM030D MLC030B	MCM030D MLC030C	MCM040D MLC035C	MCM040D MLC040C	MCM050D MLC050C	MCM061C MLC061C
Bypass factor	0.50	0.44	0.30	0.42	0.64	0.51	0.44	0.55

COOLING ONLY (R407C)

MODEL : MCM020D / M4LC020B

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	4.706	4.517	4.348	4.180	3.783	3.508	3.376	3.324	3.283
		SC	4.627	4.454	4.300	4.147	3.753	3.481	3.349	3.298	3.257
	15	TC	5.078	4.841	4.628	4.416	3.997	3.707	3.567	3.512	3.469
		SC	4.446	4.290	4.151	4.012	3.631	3.368	3.240	3.191	3.151
	18	TC	6.092	5.722	5.392	5.062	4.582	4.249	4.089	4.026	3.976
		SC	3.952	3.842	3.743	3.644	3.298	3.059	2.943	2.898	2.863
	19.4	TC	6.565	6.134	5.749	5.363	4.854	4.502	4.332	4.266	4.213
		SC	3.722	3.633	3.553	3.473	3.143	2.915	2.805	2.762	2.728
	20	TC	6.768	6.314	5.908	5.503	4.980	4.619	4.444	4.376	4.322
		SC	3.623	3.529	3.444	3.359	3.040	2.820	2.713	2.672	2.639
	22	TC	7.444	6.914	6.440	5.967	5.400	5.009	4.819	4.746	4.687
		SC	3.295	3.182	3.082	2.981	2.698	2.503	2.408	2.371	2.342
	24	TC	8.120	7.514	6.972	6.431	5.821	5.398	5.194	5.115	5.052
		SC	2.966	2.836	2.719	2.603	2.356	2.185	2.102	2.070	2.045

HIGH AMBIENT

MODEL : MCM025D / M4LC025B

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	5.416	5.196	4.999	4.803	4.655	4.418	4.305	4.261	4.226
		SC	5.053	4.909	4.781	4.652	4.509	4.280	4.170	4.128	4.094
	15	TC	5.843	5.567	5.320	5.073	4.917	4.667	4.547	4.501	4.464
		SC	4.684	4.590	4.507	4.424	4.288	4.070	3.965	3.925	3.893
	18	TC	7.008	6.578	6.194	5.811	5.632	5.345	5.208	5.155	5.113
		SC	3.678	3.722	3.761	3.801	3.683	3.496	3.406	3.372	3.345
	19.4	TC	7.551	7.050	6.602	6.155	5.965	5.662	5.517	5.461	5.416
		SC	3.208	3.316	3.413	3.510	3.402	3.229	3.146	3.114	3.089
	20	TC	7.784	7.257	6.786	6.316	6.121	5.810	5.661	5.603	5.558
		SC	3.007	3.120	3.222	3.323	3.221	3.057	2.979	2.948	2.924
	22	TC	8.561	7.947	7.399	6.852	6.641	6.303	6.141	6.079	6.030
		SC	2.336	2.467	2.584	2.702	2.618	2.485	2.421	2.397	2.377
	24	TC	9.337	8.637	8.013	7.388	7.160	6.796	6.622	6.554	6.501
		SC	1.665	1.814	1.947	2.080	2.016	1.913	1.864	1.845	1.830

HIGH AMBIENT

MODEL : MCM030D / M4LC030C

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	7.784	7.460	7.170	6.880	6.550	6.206	5.938	5.792	5.639
		SC	7.088	6.910	6.751	6.592	6.276	5.946	5.689	5.550	5.403
	15	TC	8.383	7.981	7.622	7.263	6.914	6.551	6.268	6.114	5.953
		SC	6.942	6.743	6.566	6.389	6.083	5.763	5.514	5.379	5.236
	18	TC	10.017	9.403	8.854	8.306	7.907	7.492	7.168	6.992	6.807
		SC	6.543	6.289	6.062	5.835	5.555	5.263	5.036	4.913	4.783
	19.4	TC	10.779	10.066	9.429	8.792	8.371	7.931	7.588	7.402	7.206
		SC	6.358	6.077	5.827	5.577	5.309	5.030	4.813	4.695	4.571
	20	TC	11.106	10.357	9.688	9.019	8.587	8.136	7.784	7.593	7.392
		SC	6.278	5.980	5.714	5.448	5.187	4.914	4.702	4.586	4.465
	22	TC	12.195	11.326	10.551	9.775	9.307	8.817	8.437	8.230	8.012
		SC	6.013	5.655	5.337	5.018	4.777	4.526	4.331	4.224	4.113
	24	TC	13.284	12.296	11.414	10.531	10.026	9.499	9.089	8.866	8.632
		SC	5.747	5.331	4.959	4.588	4.368	4.138	3.959	3.862	3.760

HIGH AMBIENT

MODEL : MCM040D / M4LC040C

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	9.586	9.233	8.917	8.602	7.877	7.150	6.878	6.807	6.777
		SC	9.188	8.918	8.677	8.437	7.726	7.013	6.746	6.676	6.648
	15	TC	10.505	10.004	9.556	9.109	8.341	7.571	7.284	7.208	7.177
		SC	8.993	8.723	8.482	8.241	7.547	6.850	6.590	6.521	6.493
	18	TC	13.009	12.105	11.299	10.492	9.608	8.721	8.390	8.302	8.267
		SC	8.462	8.191	7.949	7.707	7.058	6.406	6.163	6.099	6.073
	19.4	TC	14.178	13.086	12.112	11.137	10.199	9.257	8.906	8.813	8.775
		SC	8.214	7.942	7.700	7.458	6.829	6.199	5.964	5.902	5.876
	20	TC	14.678	13.533	12.511	11.489	10.521	9.549	9.187	9.091	9.052
		SC	8.108	7.807	7.538	7.270	6.657	6.043	5.813	5.753	5.728
	22	TC	16.348	15.024	13.842	12.660	11.594	10.523	10.124	10.018	9.975
		SC	7.753	7.355	6.999	6.643	6.083	5.522	5.312	5.257	5.234
	24	TC	18.018	16.515	15.174	13.832	12.667	11.497	11.061	10.945	10.899
		SC	7.399	6.903	6.460	6.017	5.510	5.001	4.811	4.761	4.741

HIGH AMBIENT

MODEL : MCM050D / M4LC050C

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	12.749	12.256	11.815	11.374	10.717	10.114	9.762	9.602	9.451
		SC	11.176	11.014	10.869	10.724	10.104	9.535	9.204	9.053	8.910
	15	TC	14.011	13.300	12.665	12.030	11.335	10.697	10.325	10.156	9.996
		SC	10.996	10.774	10.575	10.377	9.777	9.227	8.906	8.760	8.622
	18	TC	17.454	16.149	14.984	13.819	13.020	12.288	11.861	11.666	11.482
		SC	10.505	10.119	9.775	9.431	8.886	8.386	8.095	7.961	7.836
	19.4	TC	19.060	17.478	16.066	14.654	13.807	13.031	12.578	12.371	12.176
		SC	10.275	9.814	9.402	8.990	8.470	7.994	7.716	7.589	7.469
	20	TC	19.748	18.098	16.624	15.151	14.275	13.472	13.004	12.790	12.589
		SC	10.177	9.681	9.238	8.796	8.287	7.821	7.549	7.425	7.308
	22	TC	22.043	20.163	18.485	16.806	15.834	14.944	14.424	14.187	13.964
		SC	9.849	9.239	8.694	8.149	7.678	7.246	6.994	6.879	6.771
	24	TC	24.338	22.228	20.345	18.461	17.394	16.416	15.845	15.585	15.339
		SC	9.522	8.797	8.149	7.502	7.068	6.670	6.439	6.333	6.233

HIGH AMBIENT

MODEL : MCM061/ 062C / M4LC061C

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C					
			19.4	25	30	35	40	46
26.7	13.9	TC	14.875	14.109	13.425	12.741	12.057	11.237
		SC	14.875	14.109	13.425	12.741	12.057	11.237
	15	TC	15.867	14.966	14.162	13.358	12.554	11.590
		SC	14.244	13.532	12.896	12.260	11.624	10.861
	18	TC	18.572	17.304	16.173	15.041	13.909	12.551
		SC	12.524	11.958	11.453	10.949	10.444	9.838
	19.4	TC	19.835	18.396	17.111	15.826	14.542	13.000
		SC	11.721	11.224	10.780	10.336	9.893	9.360
	20	TC	20.376	18.891	17.565	16.239	14.913	13.321
		SC	11.377	10.887	10.450	10.013	9.575	9.051
	22	TC	22.179	20.540	19.076	17.612	16.148	14.392
		SC	10.230	9.764	9.349	8.933	8.518	8.019
	24	TC	23.983	22.189	20.587	18.986	17.384	15.462
		SC	9.083	8.642	8.248	7.854	7.460	6.987

All the data above are based on 26.7°C entering DB. To obtain data for different entering DB, please use the formula below :

Sensible capacity (EDB) = Sensible capacity (26.7) + 1.23 x L/s x (1 - BPF) (EDB - 26.7) / 1000

Where, BPF = Bypass factor
EDB = Entering dry bulb temperature, ° C

	MCM020D M4LC020B	MCM025D M4LC025B	MCM030D M4LC030C	MCM040D M4LC040C	MCM050D M4LC050C	MCM061/ 062C M4LC061C
Bypass factor	0.50	0.44	0.42	0.51	0.44	0.29

HEAT PUMP MODEL – R22

MODEL : MCM020DR / MLC020BR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	5.106	4.907	4.729	4.552	4.120	3.821	3.677	3.621	3.576
		SC	4.748	4.625	4.514	4.404	3.986	3.697	3.557	3.503	3.460
	15	TC	5.600	5.318	5.066	4.814	4.357	4.041	3.888	3.829	3.781
		SC	4.633	4.503	4.388	4.272	3.867	3.586	3.450	3.398	3.356
	18	TC	6.949	6.439	5.984	5.528	5.004	4.641	4.465	4.397	4.343
		SC	4.318	4.172	4.042	3.912	3.540	3.284	3.159	3.112	3.073
	19.4	TC	7.578	6.962	6.412	5.862	5.305	4.921	4.734	4.663	4.604
		SC	4.172	4.018	3.881	3.744	3.388	3.143	3.024	2.978	2.941
	20	TC	7.848	7.205	6.630	6.055	5.481	5.083	4.891	4.816	4.757
		SC	4.109	3.943	3.796	3.648	3.302	3.062	2.946	2.902	2.866
	22	TC	8.747	8.013	7.357	6.702	6.065	5.626	5.413	5.331	5.264
		SC	3.899	3.694	3.512	3.329	3.013	2.794	2.689	2.648	2.615
	24	TC	9.646	8.821	8.084	7.348	6.650	6.168	5.935	5.845	5.772
		SC	3.689	3.445	3.228	3.010	2.724	2.527	2.431	2.394	2.364

HIGH AMBIENT

MODEL : MCM025DR / MLC025BR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	5.832	5.656	5.498	5.341	5.176	4.913	4.787	4.740	4.700
		SC	4.618	4.697	4.768	4.839	4.690	4.451	4.337	4.295	4.258
	15	TC	6.281	6.065	5.872	5.679	5.504	5.225	5.090	5.040	4.998
		SC	4.558	4.623	4.680	4.738	4.592	4.359	4.247	4.205	4.170
	18	TC	7.503	7.180	6.891	6.603	6.400	6.074	5.918	5.860	5.811
		SC	4.395	4.420	4.442	4.464	4.326	4.106	4.001	3.962	3.928
	19.4	TC	8.073	7.700	7.367	7.034	6.817	6.471	6.305	6.243	6.190
		SC	4.319	4.325	4.330	4.336	4.202	3.989	3.886	3.848	3.816
	20	TC	8.318	7.909	7.544	7.179	6.958	6.604	6.434	6.372	6.317
		SC	4.286	4.260	4.237	4.214	4.084	3.876	3.777	3.740	3.708
	22	TC	9.132	8.604	8.133	7.661	7.425	7.048	6.867	6.799	6.742
		SC	4.177	4.044	3.926	3.807	3.690	3.503	3.413	3.379	3.351
	24	TC	9.947	9.300	8.722	8.144	7.893	7.492	7.299	7.228	7.167
		SC	4.068	3.829	3.615	3.401	3.296	3.129	3.048	3.019	2.993

HIGH AMBIENT

MODEL : MCM030DR / MLC030CR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	7.547	7.272	7.027	6.782	6.457	6.117	5.853	5.710	5.559
		SC	7.338	7.107	6.902	6.696	6.375	6.040	5.779	5.637	5.488
	15	TC	8.219	7.848	7.516	7.184	6.840	6.480	6.200	6.048	5.888
		SC	7.149	6.904	6.686	6.468	6.157	5.834	5.582	5.445	5.301
	18	TC	10.053	9.417	8.849	8.281	7.884	7.469	7.147	6.972	6.787
		SC	6.634	6.351	6.098	5.846	5.565	5.273	5.045	4.922	4.791
	19.4	TC	10.908	10.149	9.471	8.792	8.371	7.931	7.588	7.402	7.206
		SC	6.393	6.092	5.824	5.555	5.289	5.011	4.794	4.677	4.553
	20	TC	11.275	10.474	9.758	9.043	8.609	8.157	7.804	7.613	7.412
		SC	6.290	5.978	5.699	5.420	5.160	4.889	4.678	4.563	4.442
	22	TC	12.497	11.557	10.717	9.877	9.403	8.909	8.524	8.315	8.095
		SC	5.946	5.596	5.283	4.970	4.731	4.483	4.289	4.184	4.073
	24	TC	13.719	12.640	11.675	10.711	10.198	9.662	9.244	9.017	8.779
		SC	5.602	5.214	4.866	4.519	4.302	4.076	3.900	3.805	3.704

HIGH AMBIENT

MODEL : MCM040DR / MLC040CR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	9.748	9.448	9.180	8.913	8.162	7.408	7.127	7.0529	7.022
		SC	9.649	9.370	9.121	8.872	8.124	7.374	7.094	7.0204	6.990
	15	TC	10.889	10.381	9.928	9.475	8.676	7.875	7.576	7.4976	7.465
		SC	9.438	9.136	8.867	8.597	7.873	7.146	6.875	6.8028	6.774
	18	TC	14.000	12.926	11.967	11.008	10.080	9.150	8.802	8.7106	8.673
		SC	8.861	8.498	8.173	7.849	7.188	6.524	6.276	6.2109	6.184
	19.4	TC	15.452	14.113	12.918	11.723	10.736	9.744	9.374	9.2764	9.237
		SC	8.592	8.200	7.850	7.500	6.868	6.234	5.997	5.9348	5.909
	20	TC	16.074	14.669	13.415	12.161	11.136	10.108	9.725	9.6230	9.582
		SC	8.476	8.063	7.694	7.325	6.708	6.089	5.857	5.7963	5.772
	22	TC	18.148	16.523	15.072	13.620	12.473	11.321	10.891	10.7775	10.732
		SC	8.092	7.607	7.175	6.743	6.175	5.605	5.392	5.3357	5.313
	24	TC	20.222	18.376	16.728	15.080	13.809	12.534	12.058	11.9328	11.882
		SC	7.707	7.152	6.656	6.160	5.641	5.121	4.926	4.8744	4.854
									HIGH AMBIENT		

MODEL : MCM050DR / MLC050CR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	11.782	11.404	11.067	10.730	10.110	9.541	9.209	9.058	8.915
		SC	11.375	11.083	10.822	10.562	9.951	9.392	9.065	8.916	8.776
	15	TC	13.270	12.598	11.998	11.398	10.739	10.135	9.782	9.622	9.470
		SC	11.098	10.742	10.425	10.108	9.523	8.988	8.675	8.533	8.398
	18	TC	17.328	15.853	14.536	13.218	12.454	11.754	11.345	11.158	10.983
		SC	10.341	9.813	9.341	8.869	8.357	7.887	7.612	7.487	7.369
	19.4	TC	19.222	17.372	15.720	14.068	13.255	12.509	12.074	11.876	11.689
		SC	9.988	9.379	8.835	8.291	7.812	7.373	7.116	6.999	6.889
	20	TC	20.034	18.104	16.380	14.657	13.810	13.033	12.580	12.373	12.178
		SC	9.837	9.219	8.667	8.115	7.646	7.216	6.965	6.850	6.742
	22	TC	22.739	20.542	18.581	16.620	15.659	14.779	14.265	14.030	13.809
		SC	9.332	8.684	8.105	7.526	7.091	6.692	6.460	6.353	6.253
	24	TC	25.445	22.981	20.782	18.583	17.509	16.524	15.949	15.687	15.440
		SC	8.828	8.149	7.544	6.938	6.537	6.169	5.955	5.857	5.764
									HIGH AMBIENT		

MODEL : MCM061/ 062CR / MLC061CR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C					
			19.4	25	30	35	40	46
26.7	13.9	TC	15.134	14.401	13.747	13.093	12.438	11.653
		SC	15.134	14.401	13.747	13.093	12.438	11.653
	15	TC	16.319	15.399	14.578	13.757	12.936	11.950
		SC	14.608	13.894	13.256	12.618	11.980	11.214
	18	TC	19.548	18.119	16.843	15.568	14.292	12.761
		SC	13.174	12.510	11.917	11.323	10.730	10.018
	19.4	TC	21.055	19.389	17.901	16.413	14.925	13.139
		SC	12.505	11.864	11.292	10.719	10.147	9.460
	20	TC	21.701	19.978	18.440	16.901	15.363	13.517
		SC	12.218	11.577	11.004	10.431	9.859	9.171
	22	TC	23.854	21.943	20.237	18.530	16.824	14.776
		SC	11.262	10.619	10.045	9.471	8.897	8.209
	24	TC	26.008	23.908	22.034	20.159	18.285	16.035
		SC	10.306	9.662	9.087	8.511	7.936	7.246

Indoor	MCM020DR	MCM025DR	MCM030DR	MCM040DR	MCM050DR	MCM061/062CR
Outdoor	MLC020BR	MLC025BR	MLC030CR	MLC040CR	MLC050CR	MLC061CR
Bypass Factor	0.51	0.60	0.36	0.42	0.31	0.29

HEATING MODE – R22

MODEL : MCM020DR / MLC020BR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	3.552	3.561	3.570	3.579	3.466	3.366
	SC	3.552	3.561	3.570	3.579	3.466	3.366
-5.0	**TC**	3.858	3.823	3.789	3.754	3.702	3.655
	SC	3.858	3.823	3.789	3.754	3.702	3.655
6.0	**TC**	4.698	5.183	5.669	6.155	5.259	4.452
	SC	4.698	5.183	5.669	6.155	5.259	4.452
12.0	**TC**	5.156	5.110	5.064	5.018	4.949	4.887
	SC	5.156	5.110	5.064	5.018	4.949	4.887
15.0	**TC**	5.385	5.337	5.289	5.241	5.169	5.104
	SC	5.385	5.337	5.289	5.241	5.169	5.104
18.3	**TC**	5.637	5.587	5.536	5.486	5.411	5.343
	SC	5.637	5.587	5.536	5.486	5.411	5.343

FROST REGION

MODEL : MCM025DR / MLC025BR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	4.090	4.072	4.054	4.036	3.951	3.875
	SC	4.090	4.072	4.054	4.036	3.951	3.875
-5.0	**TC**	4.603	4.561	4.520	4.479	4.417	4.361
	SC	4.603	4.561	4.520	4.479	4.417	4.361
6.0	**TC**	6.012	6.450	6.889	7.327	6.470	5.698
	SC	6.012	6.450	6.889	7.327	6.470	5.698
12.0	**TC**	6.781	6.720	6.660	6.599	6.508	6.427
	SC	6.781	6.720	6.660	6.599	6.508	6.427
15.0	**TC**	7.165	7.101	7.037	6.973	6.878	6.791
	SC	7.165	7.101	7.037	6.973	6.878	6.791
18.3	**TC**	7.588	7.520	7.453	7.385	7.284	7.192
	SC	7.588	7.520	7.453	7.385	7.284	7.192

FROST REGION

MODEL : MCM030DR / MLC030CR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	5.802	5.731	5.660	5.589	5.541	5.497
	SC	5.802	5.731	5.660	5.589	5.541	5.497
-5.0	**TC**	6.788	6.727	6.666	6.605	6.514	6.432
	SC	6.788	6.727	6.666	6.605	6.514	6.432
6.0	**TC**	9.498	9.458	9.419	9.379	9.180	9.002
	SC	9.498	9.458	9.419	9.379	9.180	9.002
12.0	**TC**	10.977	10.879	10.781	10.683	10.536	10.404
	SC	10.977	10.879	10.781	10.683	10.536	10.404
15.0	**TC**	11.716	11.611	11.507	11.402	11.246	11.105
	SC	11.716	11.611	11.507	11.402	11.246	11.105
18.3	**TC**	12.529	12.417	12.306	12.194	12.026	11.876
	SC	12.529	12.417	12.306	12.194	12.026	11.876

FROST REGION

MODEL : MCM040DR / MLC040CR (HEATING MODE)

		Indoor DB°C						
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	6.456	6.337	6.218	6.099	6.108	6.117	FROST REGION
	SC	6.456	6.337	6.218	6.099	6.108	6.117	
-5.0	TC	7.779	7.709	7.640	7.570	7.465	7.371	
	SC	7.779	7.709	7.640	7.570	7.465	7.371	
6.0	TC	11.419	11.618	11.817	12.016	11.388	10.822	
	SC	11.419	11.618	11.817	12.016	11.388	10.822	
12.0	TC	13.404	13.284	13.165	13.045	12.866	12.704	
	SC	13.404	13.284	13.165	13.045	12.866	12.704	
15.0	TC	14.396	14.268	14.139	14.011	13.819	13.645	
	SC	14.396	14.268	14.139	14.011	13.819	13.645	
18.3	TC	15.488	15.350	15.212	15.074	14.867	14.681	
	SC	15.488	15.350	15.212	15.074	14.867	14.681	

MODEL : MCM050DR / MLC050CR (HEATING MODE)

		Indoor DB°C						
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	8.278	8.196	8.115	8.033	7.933	7.843	FROST REGION
	SC	8.278	8.196	8.115	8.033	7.933	7.843	
-5.0	TC	9.570	9.484	9.398	9.312	9.184	9.068	
	SC	9.570	9.484	9.398	9.312	9.184	9.068	
6.0	TC	13.123	13.438	13.753	14.068	13.210	12.437	
	SC	13.123	13.438	13.753	14.068	13.210	12.437	
12.0	TC	15.061	14.927	14.792	14.658	14.456	14.275	
	SC	15.061	14.927	14.792	14.658	14.456	14.275	
15.0	TC	16.030	15.887	15.744	15.601	15.387	15.194	
	SC	16.030	15.887	15.744	15.601	15.387	15.194	
18.3	TC	17.096	16.943	16.791	16.639	16.410	16.205	
	SC	17.096	16.943	16.791	16.639	16.410	16.205	

MODEL : MCM061/ 062CR / MLC061CR (HEATING MODE)

		Indoor DB°C						
Outdoor WB°C	kW	15.0	17.0	19.0	21.0	24.0	26.7	
-9.0	TC	9.390	9.251	9.113	8.974	8.933	8.896	FROST REGION
	SC	9.390	9.251	9.113	8.974	8.933	8.896	
-5.0	TC	11.118	11.018	10.918	10.819	10.669	10.535	
	SC	11.118	11.018	10.918	10.819	10.669	10.535	
6.0	TC	15.870	16.051	16.232	16.413	15.691	15.041	
	SC	15.870	16.051	16.232	16.413	15.691	15.041	
12.0	TC	18.462	18.297	18.132	17.968	17.721	17.498	
	SC	18.462	18.297	18.132	17.968	17.721	17.498	
15.0	TC	19.758	19.582	19.406	19.229	18.965	18.727	
	SC	19.758	19.582	19.406	19.229	18.965	18.727	
18.3	TC	21.183	20.995	20.806	20.617	20.334	20.079	
	SC	21.183	20.995	20.806	20.617	20.334	20.079	

HEATPUMP MODEL – R407C

MODEL : MCM020DR / M4LC020BR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	4.595	4.416	4.256	4.097	3.708	3.439	3.309	2.369	3.218
		SC	4.273	4.162	4.063	3.964	3.588	3.327	3.201	2.291	3.114
	15	TC	5.040	4.786	4.559	4.333	3.921	3.637	3.499	2.505	3.403
		SC	4.169	4.053	3.949	3.845	3.480	3.228	3.105	2.222	3.020
	18	TC	6.254	5.795	5.385	4.975	4.503	4.177	4.019	2.877	3.908
		SC	3.886	3.755	3.638	3.521	3.186	2.955	2.844	2.036	2.765
	19.4	TC	6.820	6.266	5.771	5.275	4.775	4.428	4.261	3.050	4.144
		SC	3.754	3.616	3.493	3.369	3.049	2.828	2.721	1.948	2.647
	20	TC	7.063	6.484	5.967	5.450	4.933	4.575	4.402	3.151	4.281
		SC	3.698	3.549	3.416	3.283	2.971	2.756	2.652	1.898	2.579
	22	TC	7.873	7.212	6.622	6.031	5.459	5.063	4.871	3.487	4.738
		SC	3.509	3.325	3.160	2.996	2.712	2.515	2.420	1.732	2.353
	24	TC	8.682	7.939	7.276	6.613	5.985	5.551	5.341	3.823	5.195
		SC	3.321	3.101	2.905	2.709	2.452	2.274	2.188	1.566	2.128

HIGH AMBIENT

MODEL : MCM025DR / M4LC025BR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	4.982	4.831	4.696	4.562	4.421	4.197	4.089	3.099	4.015
		SC	3.945	4.012	4.073	4.133	4.006	3.802	3.704	2.807	3.637
	15	TC	5.365	5.180	5.016	4.851	4.702	4.463	4.348	3.296	4.269
		SC	3.893	3.949	3.998	4.047	3.922	3.723	3.627	2.749	3.562
	18	TC	6.409	6.133	5.886	5.640	5.466	5.189	5.055	3.831	4.963
		SC	3.754	3.775	3.794	3.813	3.695	3.508	3.417	2.590	3.355
	19.4	TC	6.896	6.577	6.293	6.008	5.823	5.527	5.385	4.082	5.287
		SC	3.689	3.694	3.699	3.703	3.589	3.407	3.319	2.516	3.259
	20	TC	7.105	6.755	6.444	6.132	5.943	5.641	5.496	4.166	5.396
		SC	3.661	3.639	3.619	3.599	3.488	3.311	3.226	2.445	3.167
	22	TC	7.801	7.350	6.947	6.544	6.342	6.020	5.865	4.445	5.759
		SC	3.568	3.454	3.353	3.252	3.152	2.992	2.915	2.209	2.862
	24	TC	8.497	7.944	7.450	6.956	6.742	6.399	6.235	4.726	6.122
		SC	3.475	3.270	3.088	2.905	2.816	2.673	2.604	1.974	2.557

HIGH AMBIENT

MODEL : MCM030DR / M4LC030CR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	7.295	7.030	6.793	6.556	6.242	5.914	5.658	4.605	5.373
		SC	7.094	6.871	6.672	6.472	6.162	5.838	5.586	4.546	5.305
	15	TC	7.945	7.586	7.265	6.945	6.612	6.264	5.994	4.878	5.692
		SC	6.911	6.674	6.463	6.252	5.952	5.639	5.396	4.392	5.124
	18	TC	9.717	9.103	8.554	8.005	7.621	7.220	6.908	5.622	6.561
		SC	6.412	6.139	5.895	5.651	5.380	5.097	4.877	3.969	4.631
	19.4	TC	10.545	9.810	9.155	8.499	8.092	7.667	7.335	5.970	6.966
		SC	6.180	5.889	5.630	5.370	5.113	4.844	4.635	3.772	4.401
	20	TC	10.899	10.124	9.433	8.741	8.322	7.885	7.544	6.140	7.164
		SC	6.080	5.778	5.509	5.239	4.988	4.726	4.522	3.680	4.294
	22	TC	12.081	11.171	10.360	9.548	9.090	8.612	8.240	6.706	7.825
		SC	5.748	5.409	5.107	4.804	4.574	4.333	4.146	3.374	3.937
	24	TC	13.262	12.218	11.286	10.354	9.858	9.340	8.936	7.273	8.486
		SC	5.416	5.040	4.704	4.369	4.159	3.940	3.770	3.068	3.580

HIGH AMBIENT

HEATPUMP MODEL – R407C

MODEL : MCM040DR / M4LC040CR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	9.504	9.212	8.951	8.690	7.958	7.223	6.949	5.361	6.847
		SC	9.408	9.136	8.893	8.650	7.921	7.190	6.917	5.337	6.815
	15	TC	10.616	10.122	9.680	9.238	8.459	7.679	7.387	5.699	7.279
		SC	9.202	8.908	8.645	8.382	7.676	6.967	6.703	5.171	6.605
	18	TC	13.650	12.603	11.668	10.733	9.828	8.921	8.582	6.621	8.456
		SC	8.639	8.285	7.969	7.653	7.008	6.361	6.119	4.721	6.030
	19.4	TC	15.065	13.760	12.595	11.430	10.467	9.501	9.140	7.052	9.006
		SC	8.377	7.995	7.653	7.312	6.696	6.078	5.847	4.511	5.761
	20	TC	15.672	14.303	13.080	11.857	10.858	9.856	9.481	7.315	9.342
		SC	8.264	7.861	7.502	7.142	6.540	5.936	5.711	4.406	5.627
	22	TC	17.694	16.110	14.695	13.280	12.161	11.038	10.619	8.193	10.464
		SC	7.889	7.417	6.996	6.574	6.020	5.464	5.257	4.056	5.180
	24	TC	19.717	17.917	16.310	14.703	13.464	12.221	11.757	9.071	11.585
		SC	7.514	6.973	6.490	6.006	5.500	4.993	4.803	3.706	4.733
									HIGH AMBIENT		

MODEL : MCM050DR / M4LC050CR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C								
			19.4	25	30	35	40	46	50	52	54
26.7	13.9	TC	11.782	11.404	11.067	10.730	10.110	9.541	9.209	9.058	8.915
		SC	11.375	11.083	10.822	10.562	9.951	9.392	9.065	8.916	8.776
	15	TC	13.270	12.598	11.998	11.398	10.739	10.135	9.782	9.622	9.470
		SC	11.098	10.742	10.425	10.108	9.523	8.988	8.675	8.533	8.398
	18	TC	17.328	15.853	14.536	13.218	12.454	11.754	11.345	11.158	10.983
		SC	10.341	9.813	9.341	8.869	8.357	7.887	7.612	7.487	7.369
	19.4	TC	19.222	17.372	15.720	14.068	13.255	12.509	12.074	11.876	11.689
		SC	9.988	9.379	8.835	8.291	7.812	7.373	7.116	6.999	6.889
	20	TC	20.034	18.104	16.380	14.657	13.810	13.033	12.580	12.373	12.178
		SC	9.837	9.219	8.667	8.115	7.646	7.216	6.965	6.850	6.742
	22	TC	22.739	20.542	18.581	16.620	15.659	14.779	14.265	14.030	13.809
		SC	9.332	8.684	8.105	7.526	7.091	6.692	6.460	6.353	6.253
	24	TC	25.445	22.981	20.782	18.583	17.509	16.524	15.949	15.687	15.440
		SC	8.828	8.149	7.544	6.938	6.537	6.169	5.955	5.857	5.764
									HIGH AMBIENT		

MODEL : MCM061/ 062CR / M4LC061CR (COOLING MODE)

Indoor DB °C	Indoor WB °C	Capacity kW	Outdoor DB, °C					
			19.4	25	30	35	40	46
26.7	13.9	TC	14.344	13.605	12.946	12.286	11.627	10.836
		SC	14.344	13.605	12.946	12.286	11.627	10.836
	15	TC	15.301	14.432	13.656	12.881	12.106	11.176
		SC	13.735	13.049	12.436	11.822	11.209	10.473
	18	TC	17.909	16.686	15.596	14.504	13.412	12.103
		SC	12.077	11.531	11.044	10.558	10.071	9.487
	19.4	TC	19.127	17.739	16.500	15.261	14.023	12.536
		SC	11.303	10.823	10.395	9.967	9.540	9.026
	20	TC	19.649	18.217	16.938	15.659	14.381	12.845
		SC	10.971	10.498	10.077	9.656	9.233	8.728
	22	TC	21.387	19.807	18.395	16.983	15.572	13.878
		SC	9.865	9.415	9.015	8.614	8.214	7.733
	24	TC	23.127	21.397	19.852	18.308	16.763	14.910
		SC	8.759	8.333	7.954	7.574	7.194	6.738

Indoor	MCM020DR	MCM025DR	MCM030DR	MCM040DR	MCM050DR	MCM061/062CR
Outdoor	M4LC020BR	M4LC025BR	M4LC030CR	M4LC040CR	M4LC050CR	M4LC061CR
Bypass Factor	0.51	0.60	0.36	0.42	0.31	0.29

HEATING MODE – R407C

MODEL : MCM020DR / M4LC020BR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	3.214	3.222	3.230	3.238	3.136	3.045
	SC	3.214	3.222	3.230	3.238	3.136	3.045
-5.0	**TC**	3.490	3.459	3.428	3.396	3.349	3.307
	SC	3.490	3.459	3.428	3.396	3.349	3.307
6.0	**TC**	4.250	4.690	5.129	5.569	4.758	4.028
	SC	4.250	4.690	5.129	5.569	4.758	4.028
12.0	**TC**	4.665	4.623	4.581	4.540	4.477	4.421
	SC	4.665	4.623	4.581	4.540	4.477	4.421
15.0	**TC**	4.872	4.829	4.785	4.742	4.676	4.618
	SC	4.872	4.829	4.785	4.742	4.676	4.618
18.3	**TC**	5.100	5.054	5.009	4.964	4.895	4.834
	SC	5.100	5.054	5.009	4.964	4.895	4.834

FROST REGION

MODEL : MCM025DR / M4LC025BR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	3.926	3.909	3.892	3.874	3.793	3.720
	SC	3.926	3.909	3.892	3.874	3.793	3.720
-5.0	**TC**	4.418	4.379	4.339	4.300	4.240	4.187
	SC	4.418	4.379	4.339	4.300	4.240	4.187
6.0	**TC**	5.771	6.192	6.613	7.034	6.211	5.470
	SC	5.771	6.192	6.613	7.034	6.211	5.470
12.0	**TC**	6.509	6.451	6.393	6.335	6.248	6.169
	SC	6.509	6.451	6.393	6.335	6.248	6.169
15.0	**TC**	6.878	6.817	6.756	6.694	6.602	6.519
	SC	6.878	6.817	6.756	6.694	6.602	6.519
18.3	**TC**	7.284	7.219	7.154	7.089	6.992	6.904
	SC	7.284	7.219	7.154	7.089	6.992	6.904

FROST REGION

MODEL : MCM030DR / M4LC030CR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	5.621	5.552	5.483	5.414	5.368	5.326
	SC	5.621	5.552	5.483	5.414	5.368	5.326
-5.0	**TC**	6.576	6.517	6.458	6.399	6.310	6.231
	SC	6.576	6.517	6.458	6.399	6.310	6.231
6.0	**TC**	9.201	9.163	9.124	9.085	8.893	8.720
	SC	9.201	9.163	9.124	9.085	8.893	8.720
12.0	**TC**	10.633	10.538	10.444	10.349	10.206	10.078
	SC	10.633	10.538	10.444	10.349	10.206	10.078
15.0	**TC**	11.349	11.248	11.147	11.046	10.894	10.757
	SC	11.349	11.248	11.147	11.046	10.894	10.757
18.3	**TC**	12.137	12.029	11.921	11.813	11.650	11.504
	SC	12.137	12.029	11.921	11.813	11.650	11.504

FROST REGION

MODEL : MCM040DR / M4LC040CR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	6.456	6.337	6.218	6.099	6.108	6.116
	SC	6.456	6.337	6.218	6.099	6.108	6.116
-5.0	**TC**	7.779	7.709	7.639	7.570	7.465	7.371
	SC	7.779	7.709	7.639	7.570	7.465	7.371
6.0	**TC**	11.418	11.617	11.817	12.016	11.387	10.822
	SC	11.418	11.617	11.817	12.016	11.387	10.822
12.0	**TC**	13.403	13.284	13.164	13.044	12.865	12.704
	SC	13.403	13.284	13.164	13.044	12.865	12.704
15.0	**TC**	14.396	14.267	14.139	14.011	13.818	13.645
	SC	14.396	14.267	14.139	14.011	13.818	13.645
18.3	**TC**	15.487	15.349	15.211	15.073	14.866	14.680
	SC	15.487	15.349	15.211	15.073	14.866	14.680

FROST REGION

MODEL : MCM050DR / M4LC050CR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	8.622	8.538	8.453	8.368	8.263	8.169
	SC	8.622	8.538	8.453	8.368	8.263	8.169
-5.0	**TC**	9.968	9.879	9.789	9.700	9.566	9.445
	SC	9.968	9.879	9.789	9.700	9.566	9.445
6.0	**TC**	13.669	13.997	14.326	14.654	13.760	12.955
	SC	13.669	13.997	14.326	14.654	13.760	12.955
12.0	**TC**	15.688	15.548	15.408	15.268	15.058	14.869
	SC	15.688	15.548	15.408	15.268	15.058	14.869
15.0	**TC**	16.697	16.548	16.400	16.251	16.027	15.826
	SC	16.697	16.548	16.400	16.251	16.027	15.826
18.3	**TC**	17.808	17.649	17.490	17.332	17.093	16.879
	SC	17.808	17.649	17.490	17.332	17.093	16.879

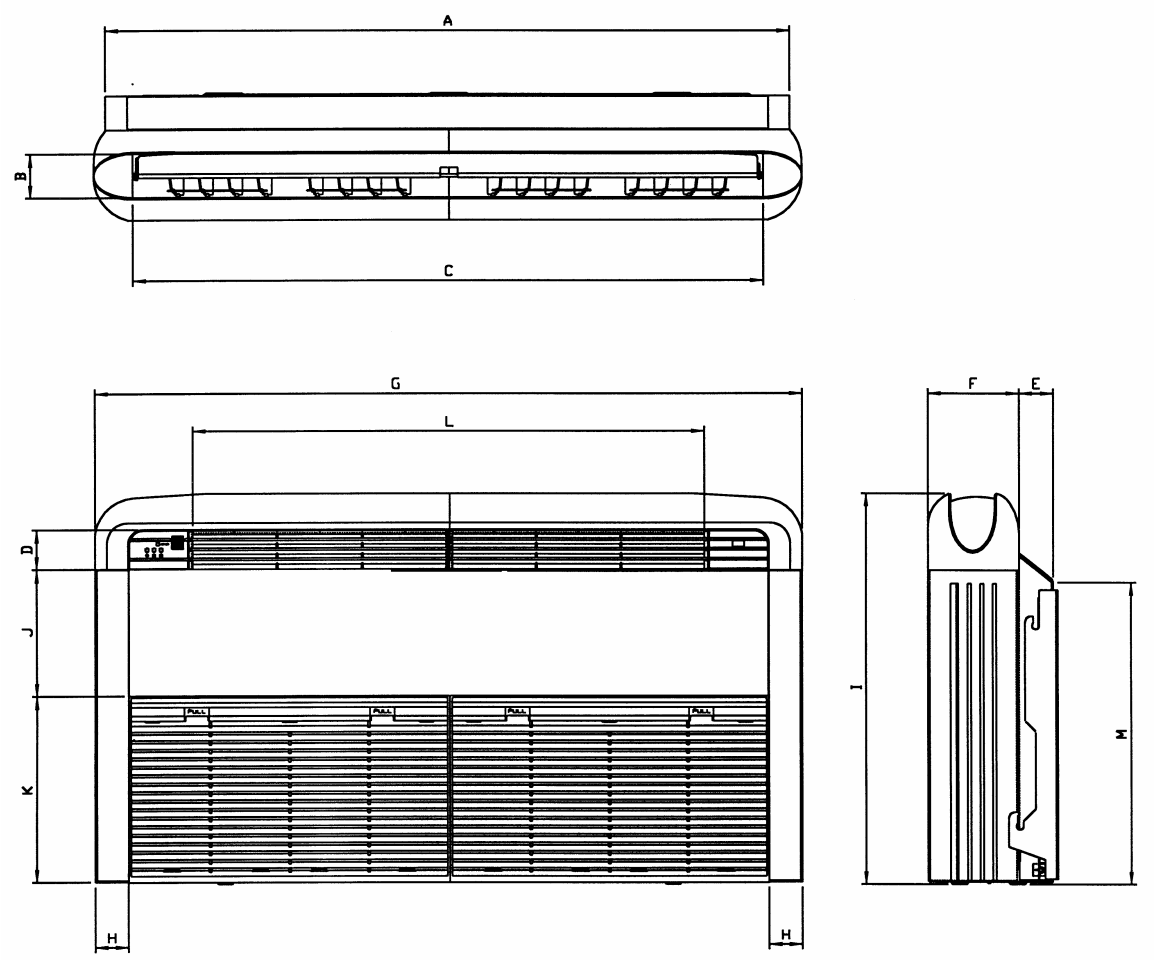
FROST REGION

MODEL : MCM061/ 062CR / M4LC061CR (HEATING MODE)

		Indoor DB°C					
Outdoor WB°C	**kW**	**15.0**	**17.0**	**19.0**	**21.0**	**24.0**	**26.7**
-9.0	**TC**	9.390	9.251	9.113	8.974	8.933	8.896
	SC	9.390	9.251	9.113	8.974	8.933	8.896
-5.0	**TC**	11.118	11.018	10.918	10.819	10.669	10.535
	SC	11.118	11.018	10.918	10.819	10.669	10.535
6.0	**TC**	15.870	16.051	16.232	16.413	15.691	15.041
	SC	15.870	16.051	16.232	16.413	15.691	15.041
12.0	**TC**	18.462	18.297	18.132	17.968	17.721	17.498
	SC	18.462	18.297	18.132	17.968	17.721	17.498
15.0	**TC**	19.758	19.582	19.406	19.229	18.965	18.727
	SC	19.758	19.582	19.406	19.229	18.965	18.727
18.3	**TC**	21.183	20.995	20.806	20.617	20.334	20.079
	SC	21.183	20.995	20.806	20.617	20.334	20.079

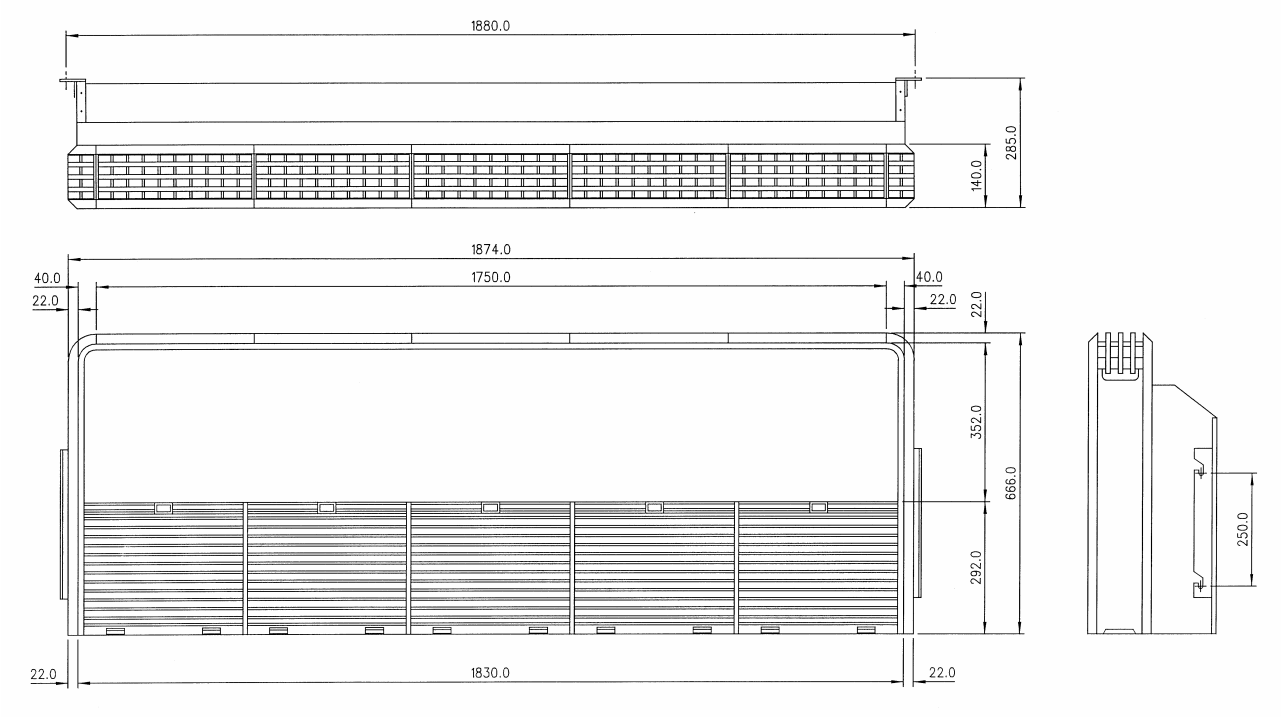
FROST REGION

INDOOR UNIT
Model: MCM - D SERIES
(COOLING ONLY AND HEAT PUMP)

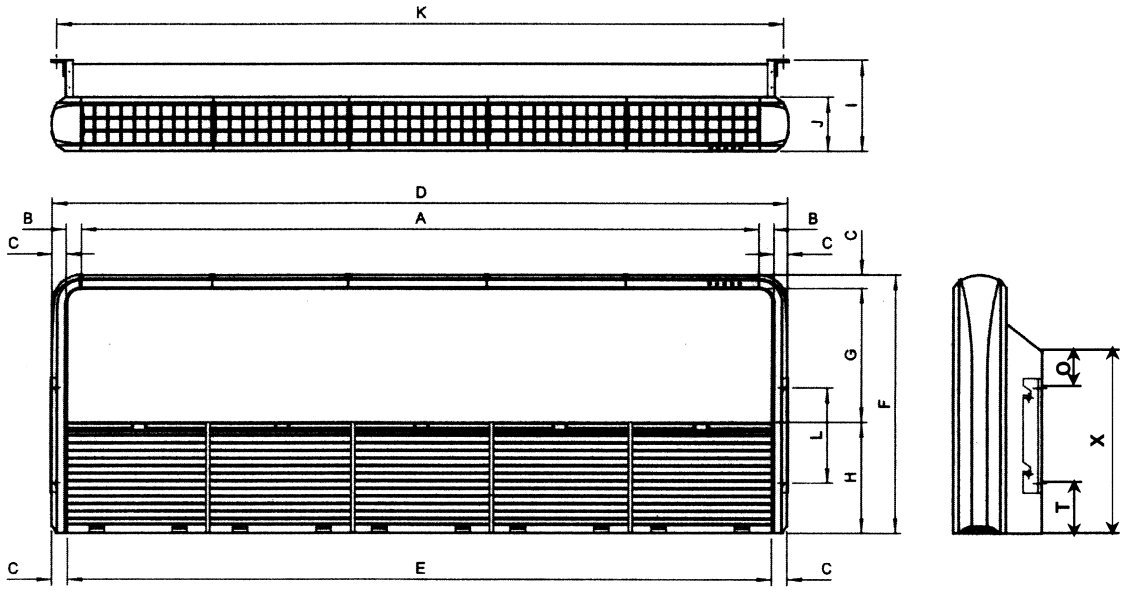


MODEL	MCM020D/DR	MCM025D/DR	MCM030D/DR	MCM040D/DR	MCM050D/DR
A	1174	1174	1174	1674	1674
B	75	75	75	75	75
C	1082	1082	1082	1582	1582
D	68	68	68	68	68
E	58	58	93	93	93
F	156	156	156	156	156
G	1214	1214	1214	1714	1714
H	57	57	57	57	57
I	670	670	670	670	670
J	216	216	216	216	216
K	319	319	319	319	319
L	879	879	879	1379	1379
M	517	517	517	517	517

MODEL : MCM061C/CR

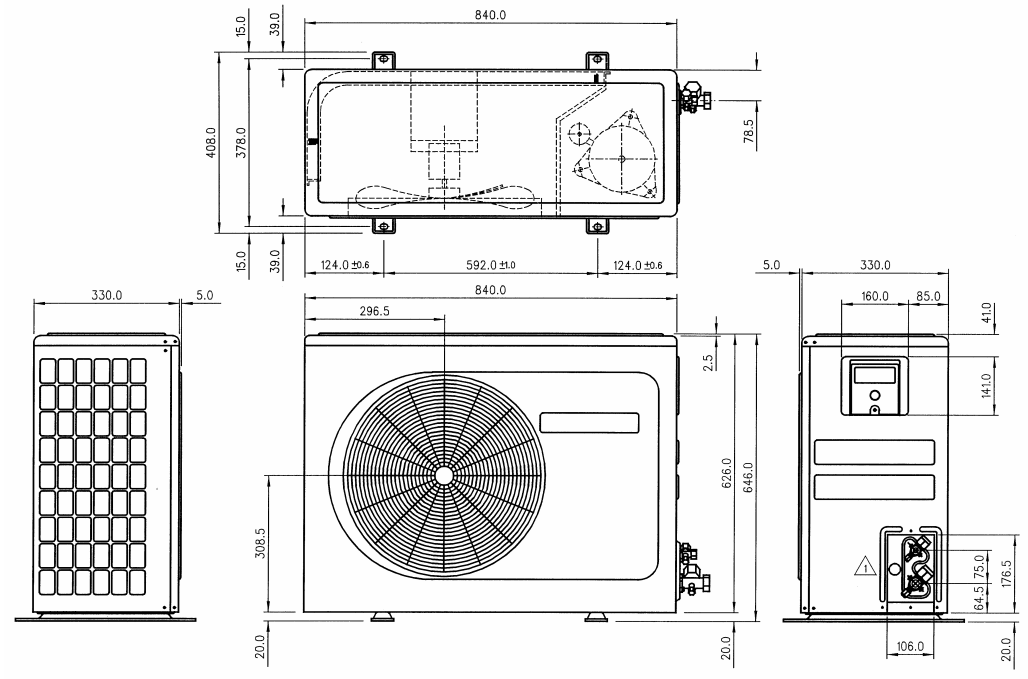


MODEL : MCM062C/CR



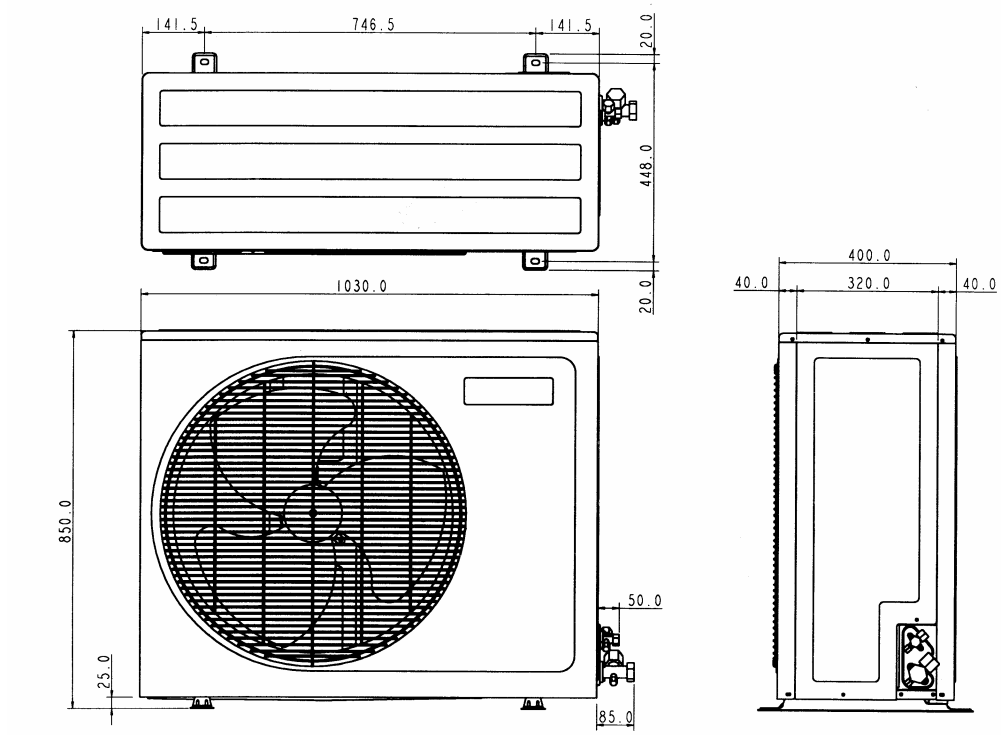
CE	A(GRILL)	B	C	D	E	F	G	H	I	J	K	L	O	T	X
62C	1750	40	36	1930	1830	680	352	292	285	140	1880	250	126	132	508

OUTDOOR UNIT
MODEL : MLC020/ 025 B/BR, M4LC020/ 025 B/BR, MLC030B/BR



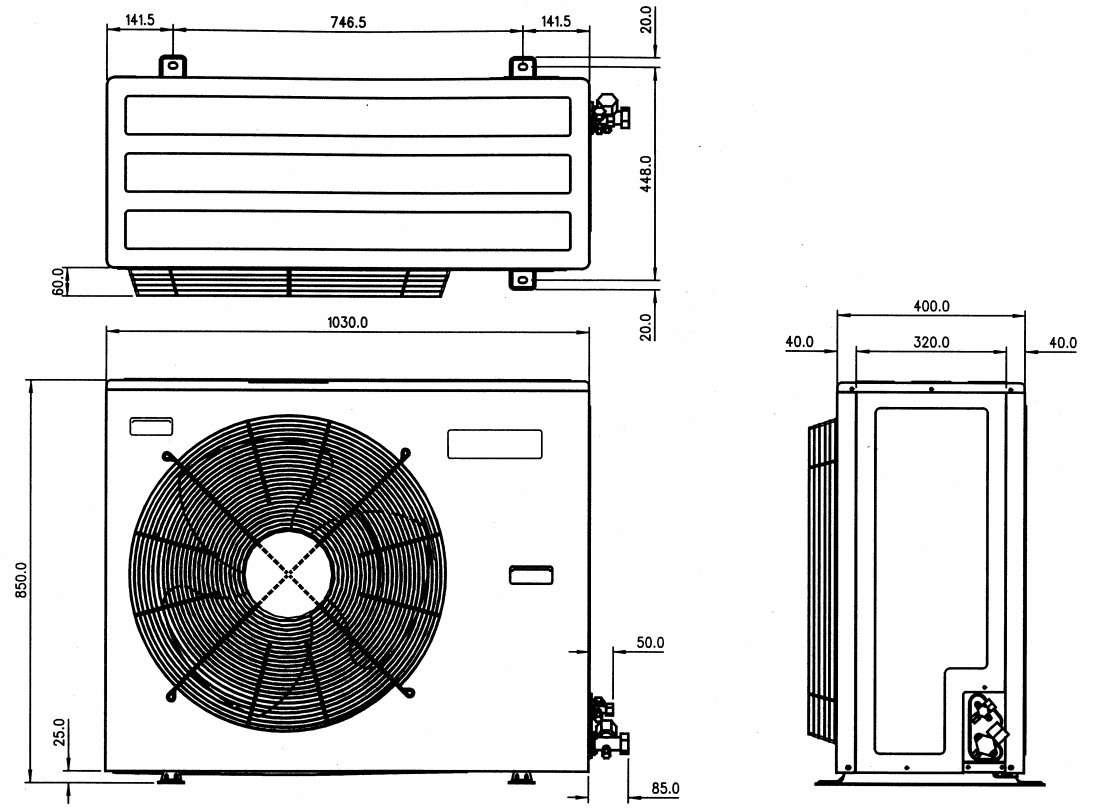
Note : Dimension in mm

MODEL : MLC030/ 035/ 040/ 050 C/CR, M4LC030/ 040/ 050 C/CR, M4LC060C



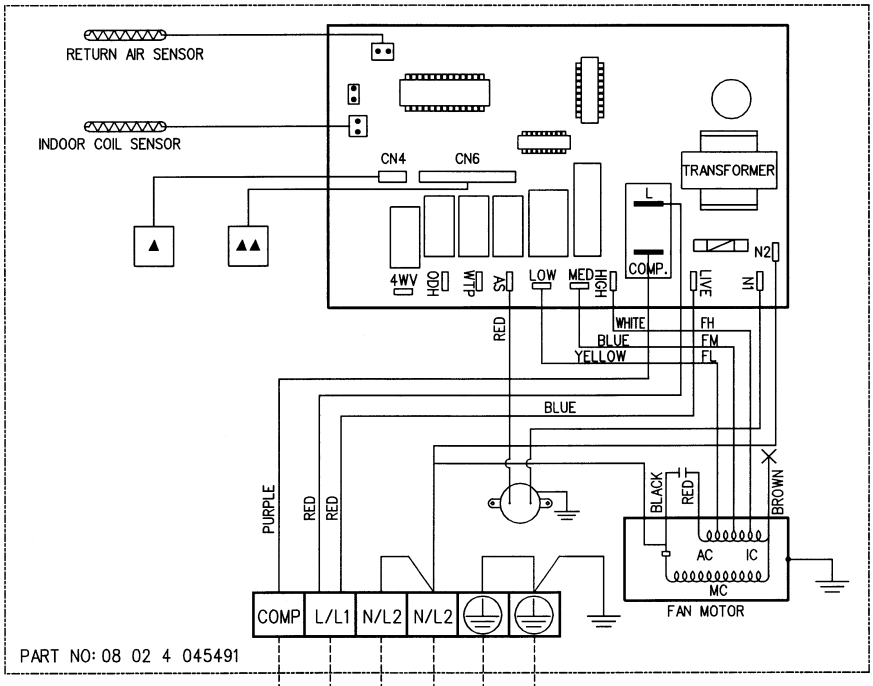
Caution Sharp edges and coil surfaces are potential locations which may cause injury hazards. Avoid from being in contact with these places.

MODEL : MLC / M4LC061 C/CR

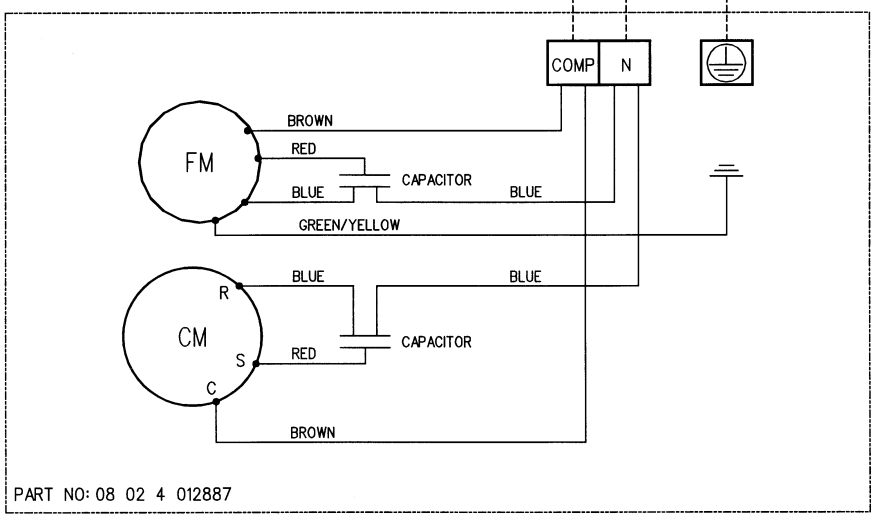


Wiring Diagrams

COOLING ONLY
INDOOR UNIT
MODEL : MCM020/025D



OUTDOOR UNIT
MODEL : MLC/M4LC020/ 025B



KEY:

CM - COMPRESSOR MOTOR WITH INTERNAL OVERLOAD PROTECTOR

FM - FAN MOTOR

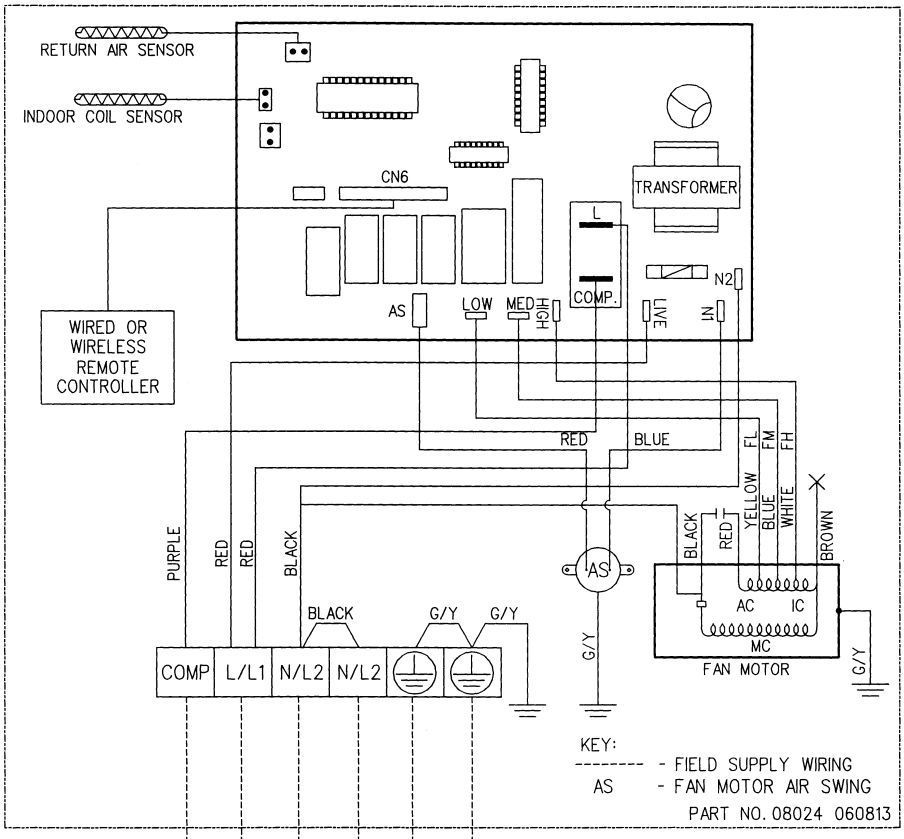
----- - FIELD SUPPLY WIRING

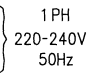
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

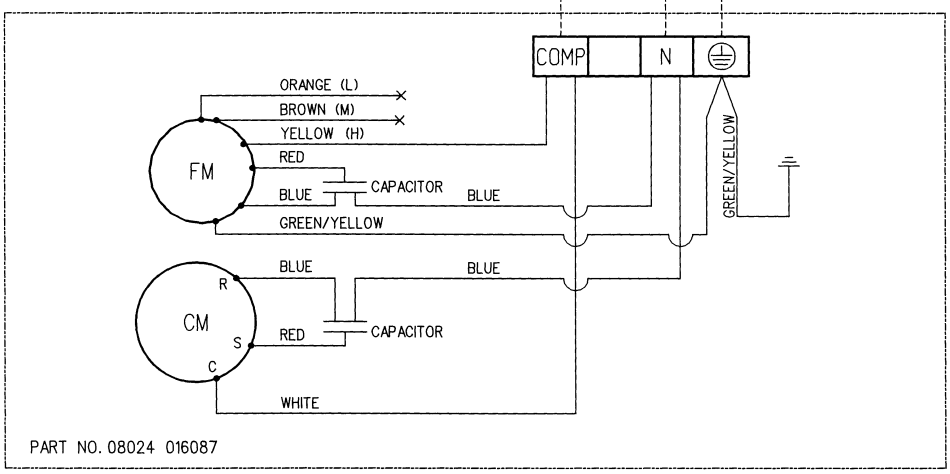
REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

INDOOR UNIT
MODEL : MCM030D



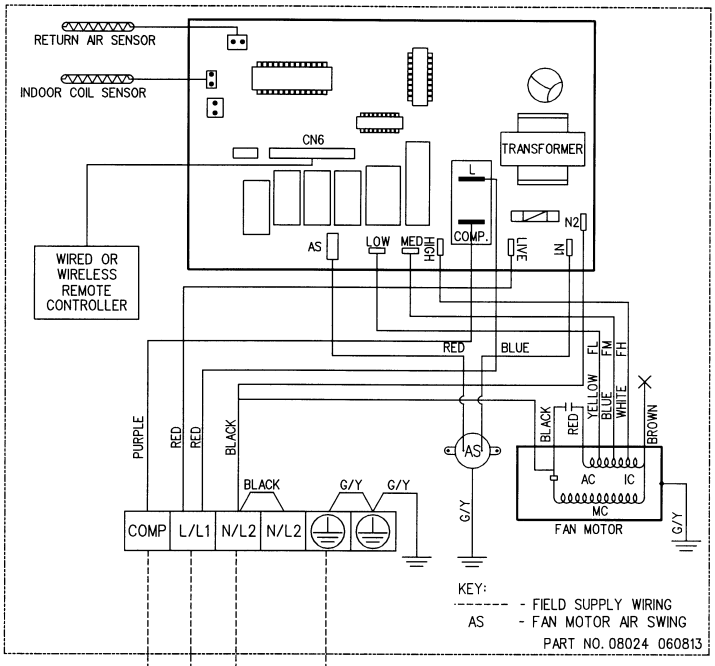


OUTDOOR UNIT
MODEL : MLC030B

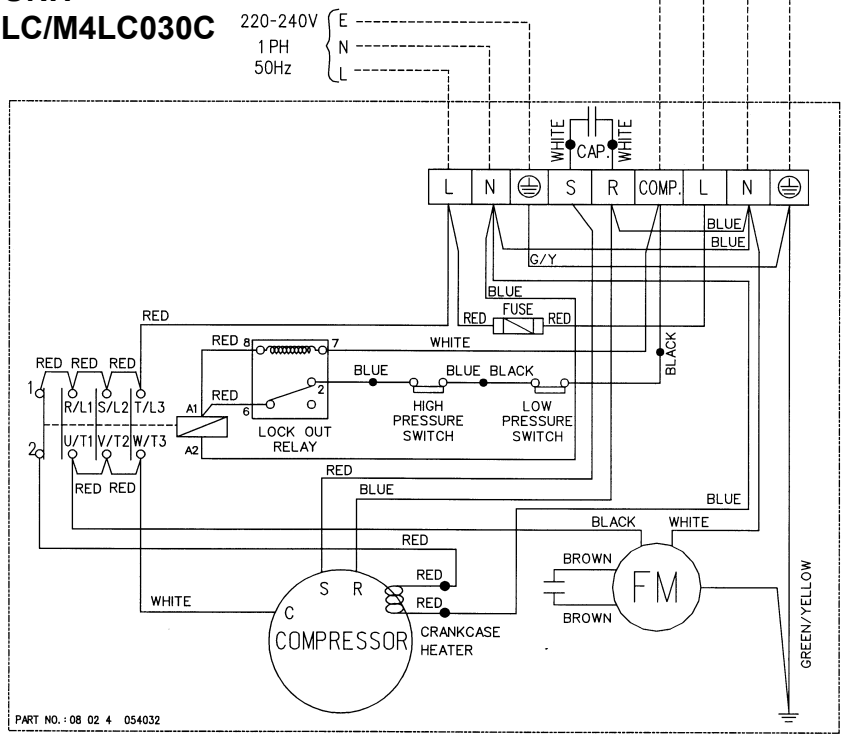


KEY:
CM - COMPRESSOR MOTOR WITH INTERNAL OVERLOAD PROTECTOR
FM - FAN MOTOR
----- - FIELD SUPPLY WIRING
▲ CN4 IS CONNECTED TO WIRED HANDSET
▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET
REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

INDOOR UNIT
MODEL : MCM030D



OUTDOOR UNIT
MODEL : MLC/M4LC030C

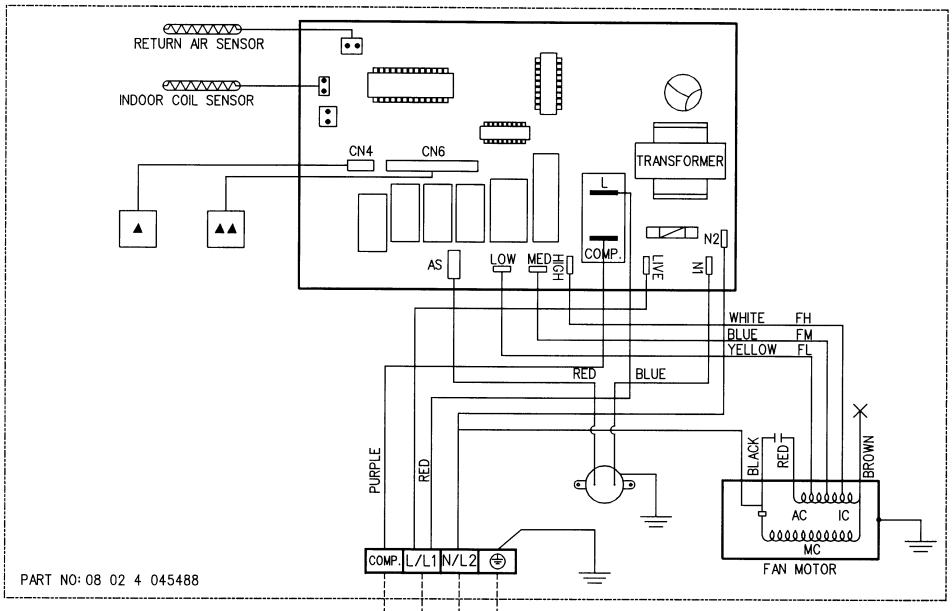


KEY:

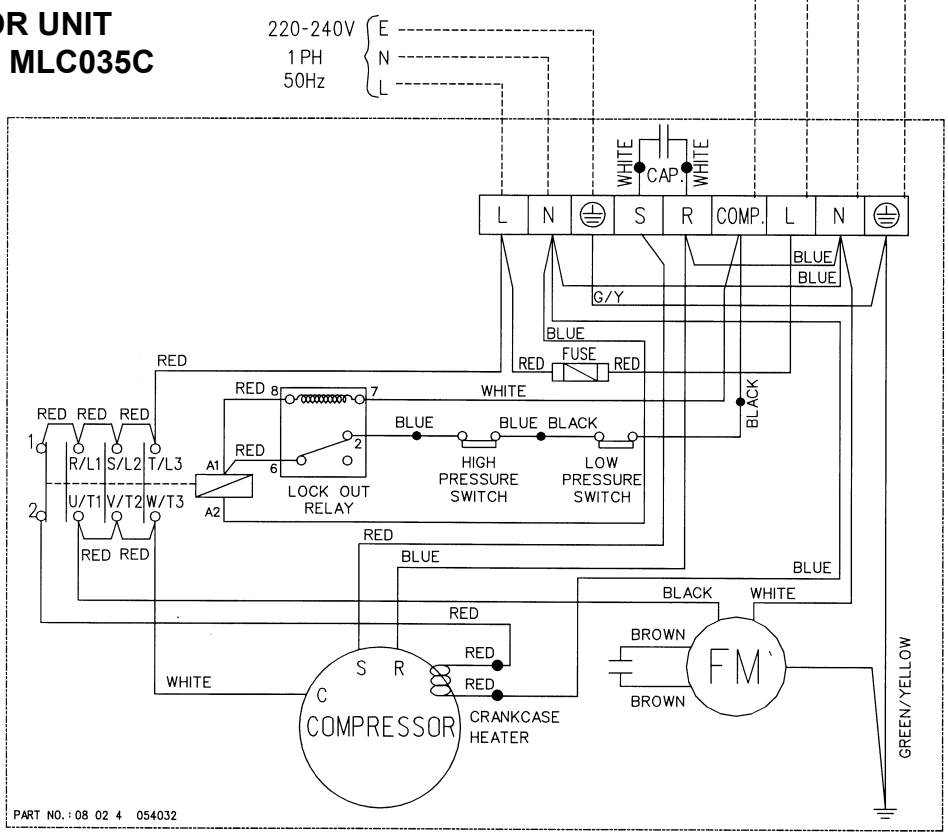
CM - COMPRESSOR MOTOR WITH INTERNAL OVERLOAD PROTECTOR
FM - FAN MOTOR
----- - FIELD SUPPLY WIRING

▲ CN4 IS CONNECTED TO WIRED HANDSET
▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET
REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

INDOOR UNIT
MODEL : MCM040D



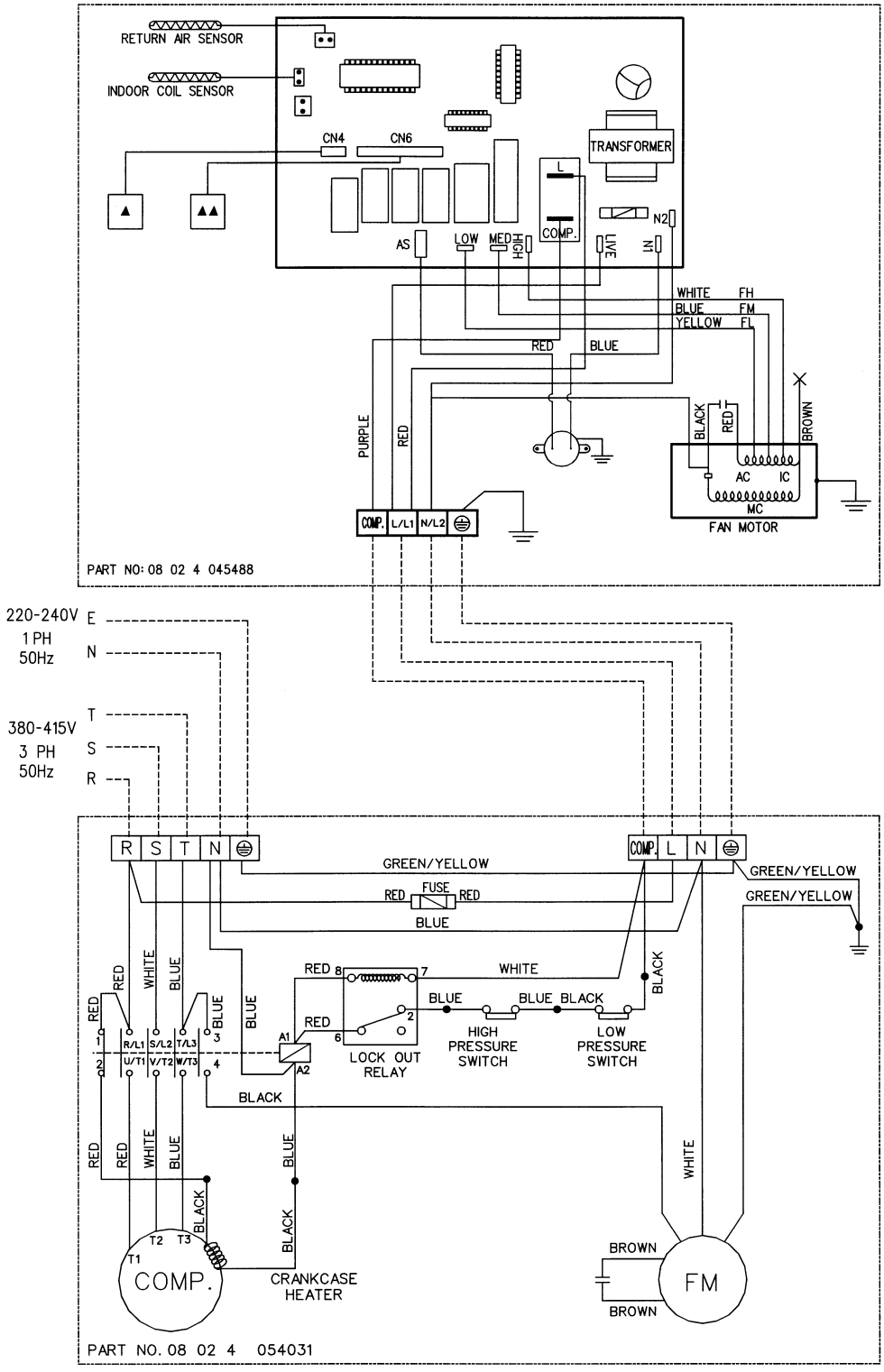
OUTDOOR UNIT
MODEL : MLC035C



KEY:

CM - COMPRESSOR MOTOR WITH INTERNAL OVERLOAD PROTECTOR
FM - FAN MOTOR
----- - FIELD SUPPLY WIRING
▲ CN4 IS CONNECTED TO WIRED HANDSET
▲▲CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET
REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

INDOOR UNIT
MODEL : MCM040/ 050D



KEY:

----- - FIELD SUPPLY WIRING

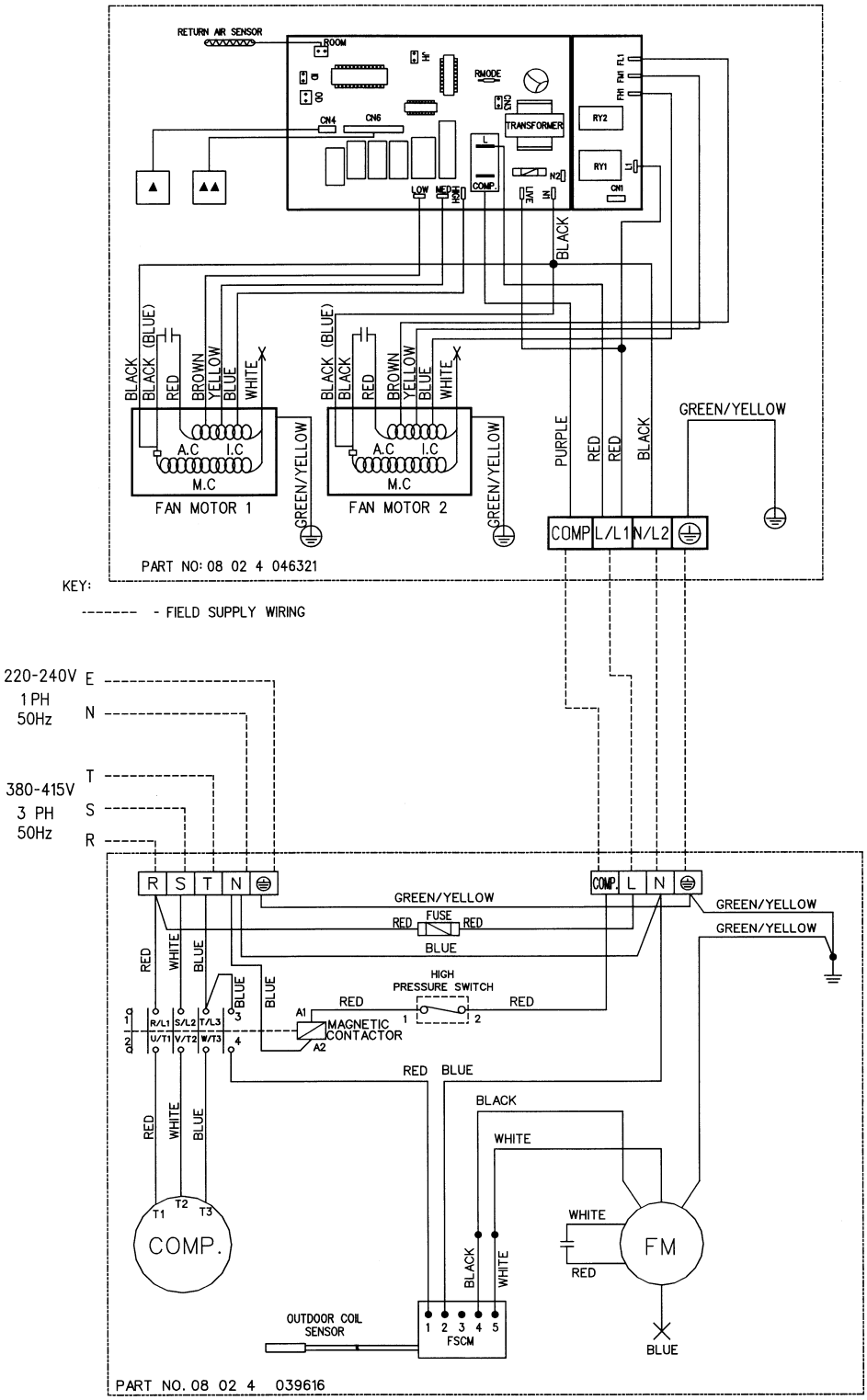
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

OUTDOOR UNIT
MODEL : MLC/M4LC040/ 050C

INDOOR UNIT
MODEL : MCM061/ 062C



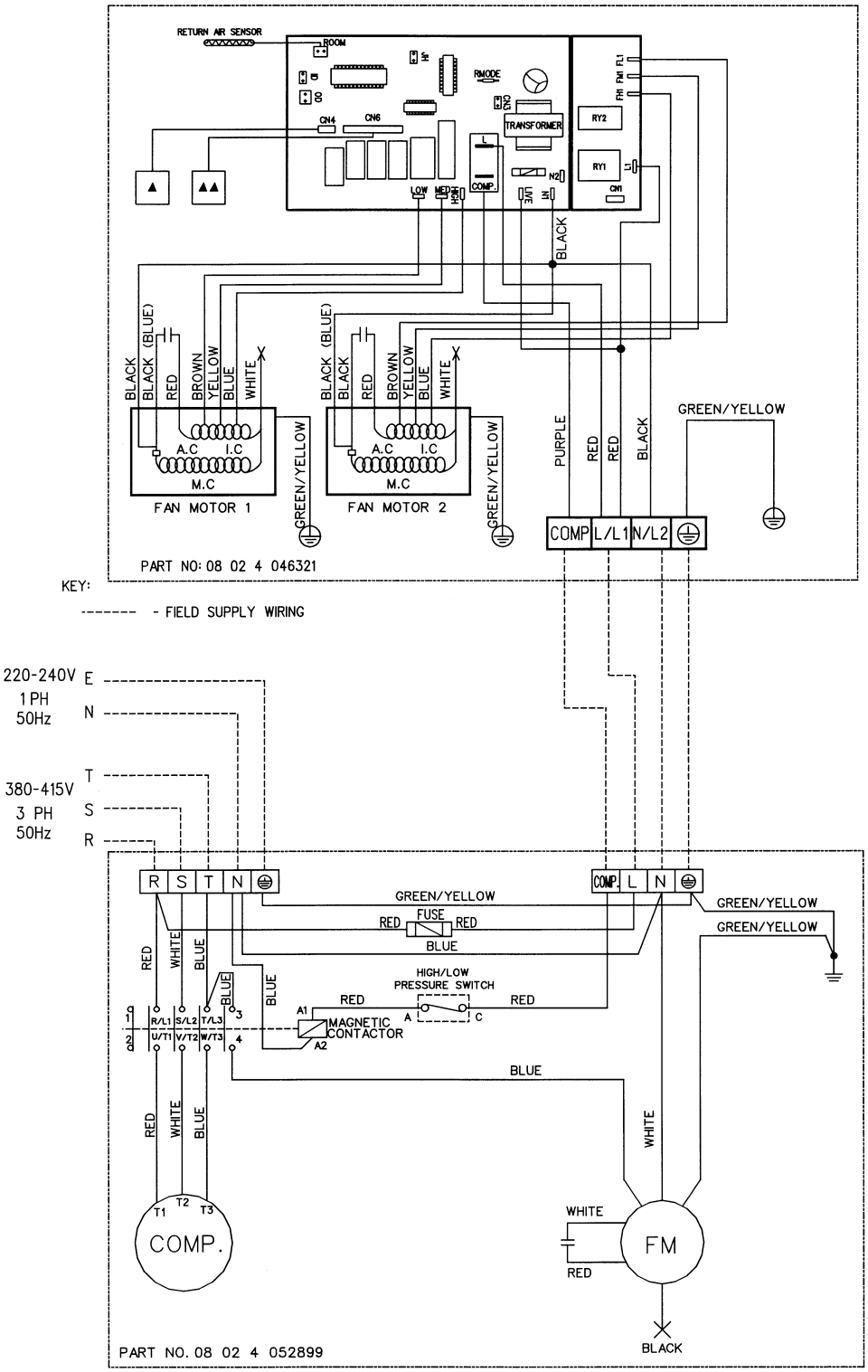
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

OUTDOOR UNIT
MODEL : M4LC060C

INDOOR UNIT
MODEL : MCM061/ 062C



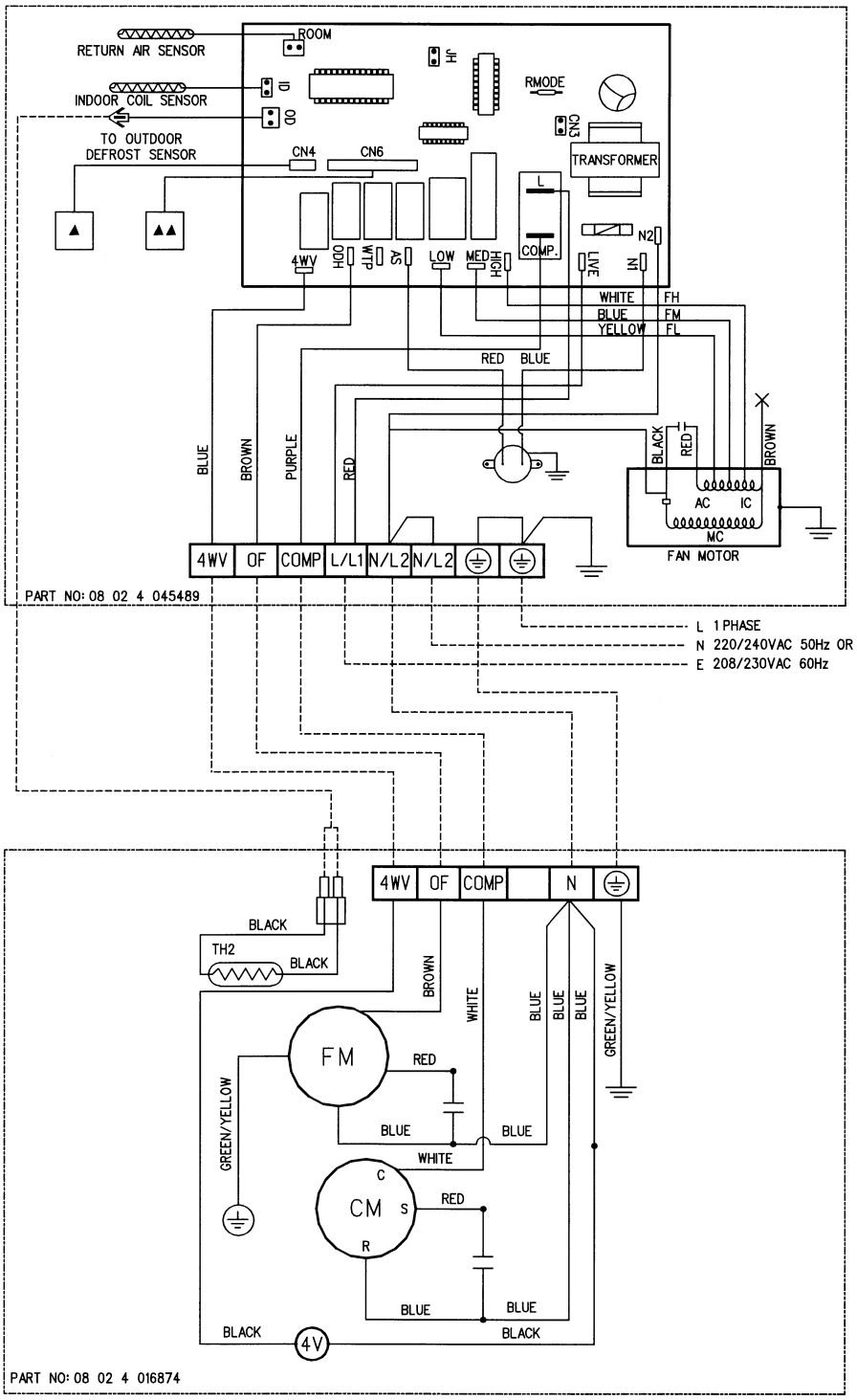
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

OUTDOOR UNIT
MODEL: MLC/ M4LC061C

HEAT PUMP
INDOOR UNIT
MODEL : MCM020/ 025DR



KEY:

CM - COMPRESSOR MOTOR WITH
FM - FAN MOTOR
4V - 4 WAY VALVE
----- - FIELD SUPPLY WIRING

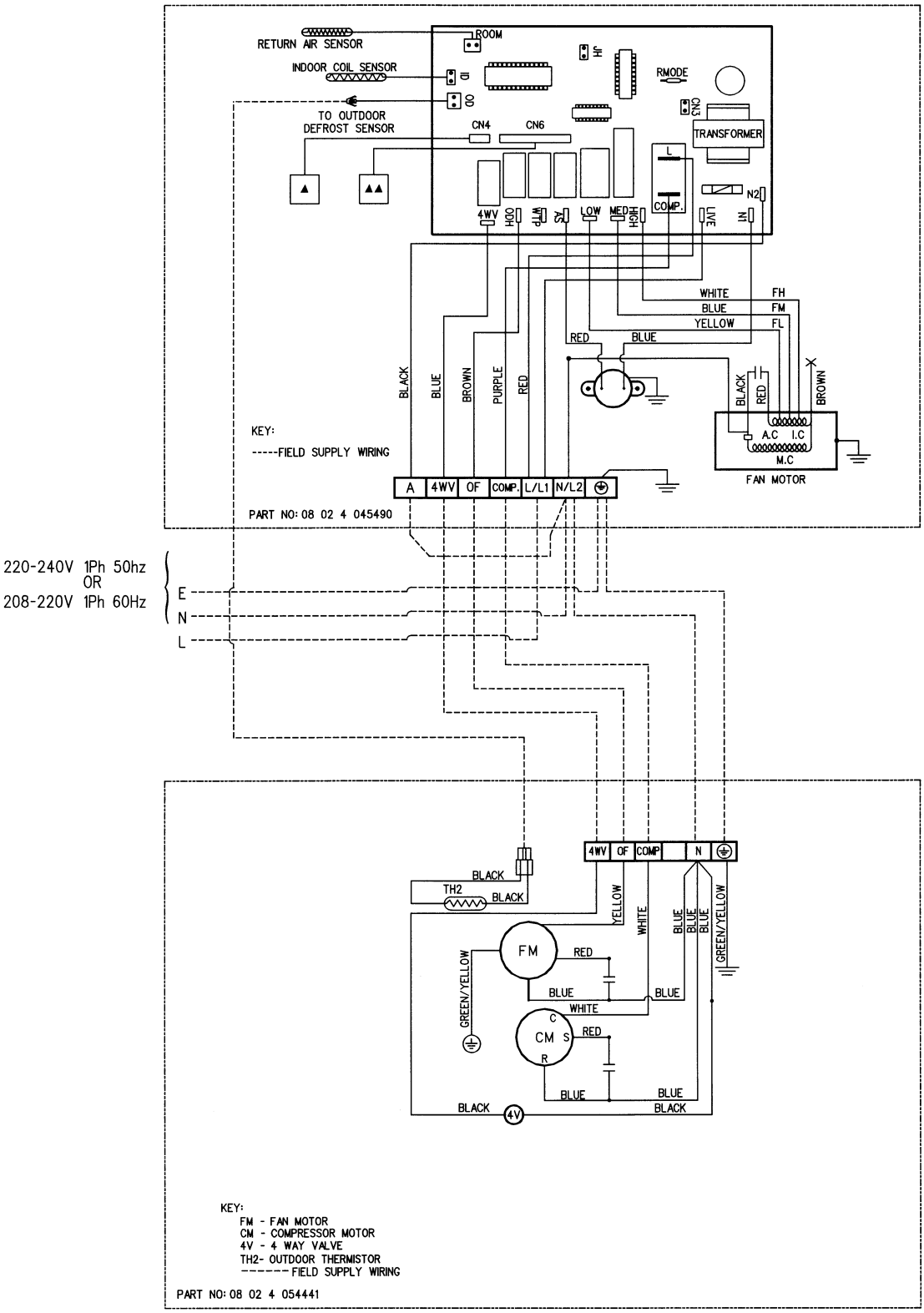
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

OUTDOOR UNIT
MODEL: MLC/ M4LC020/ 025BR

INDOOR UNIT
MODEL : MCM030DR



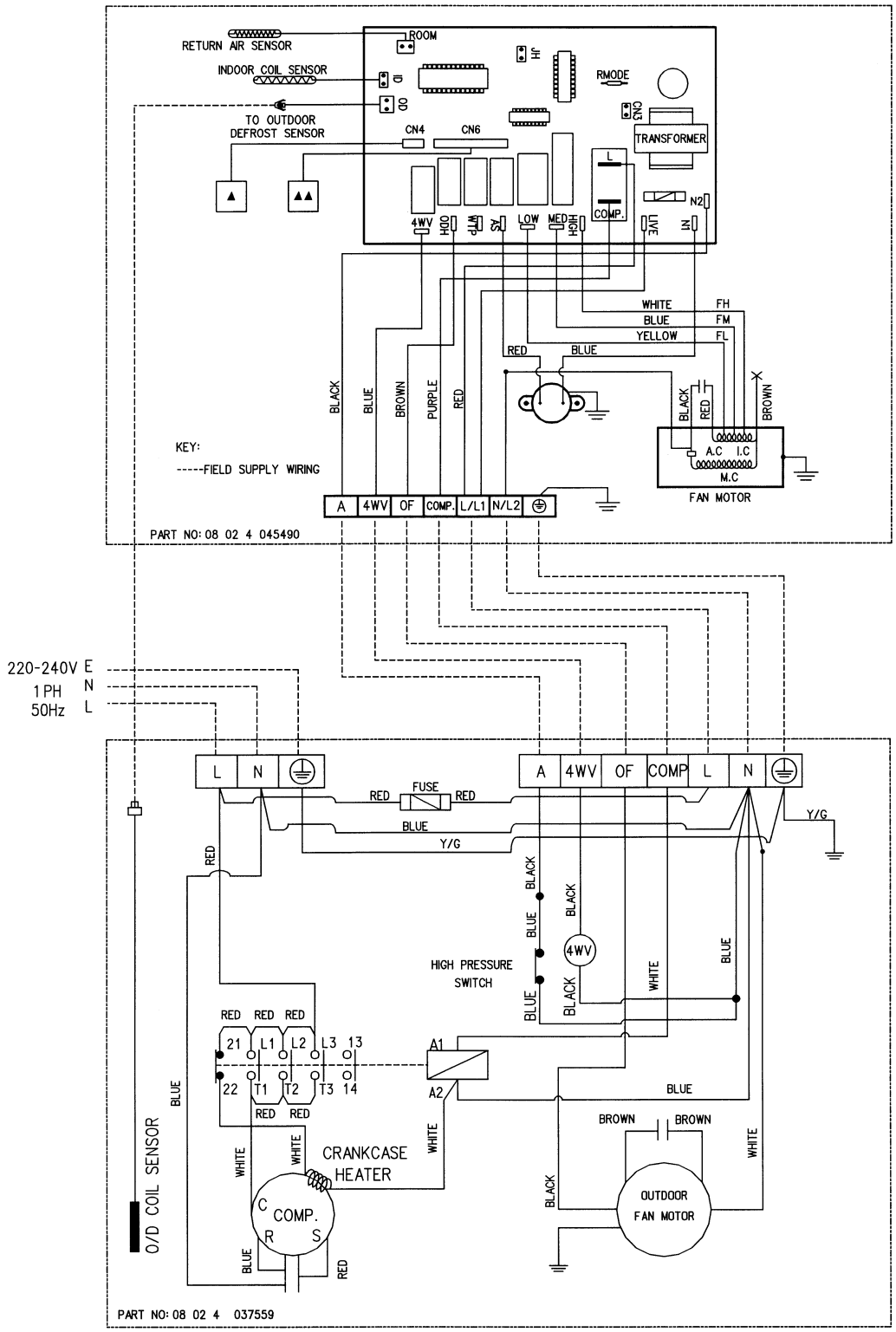
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

OUTDOOR UNIT
MODEL: MLC030BR

INDOOR UNIT
MODEL : MCM030DR



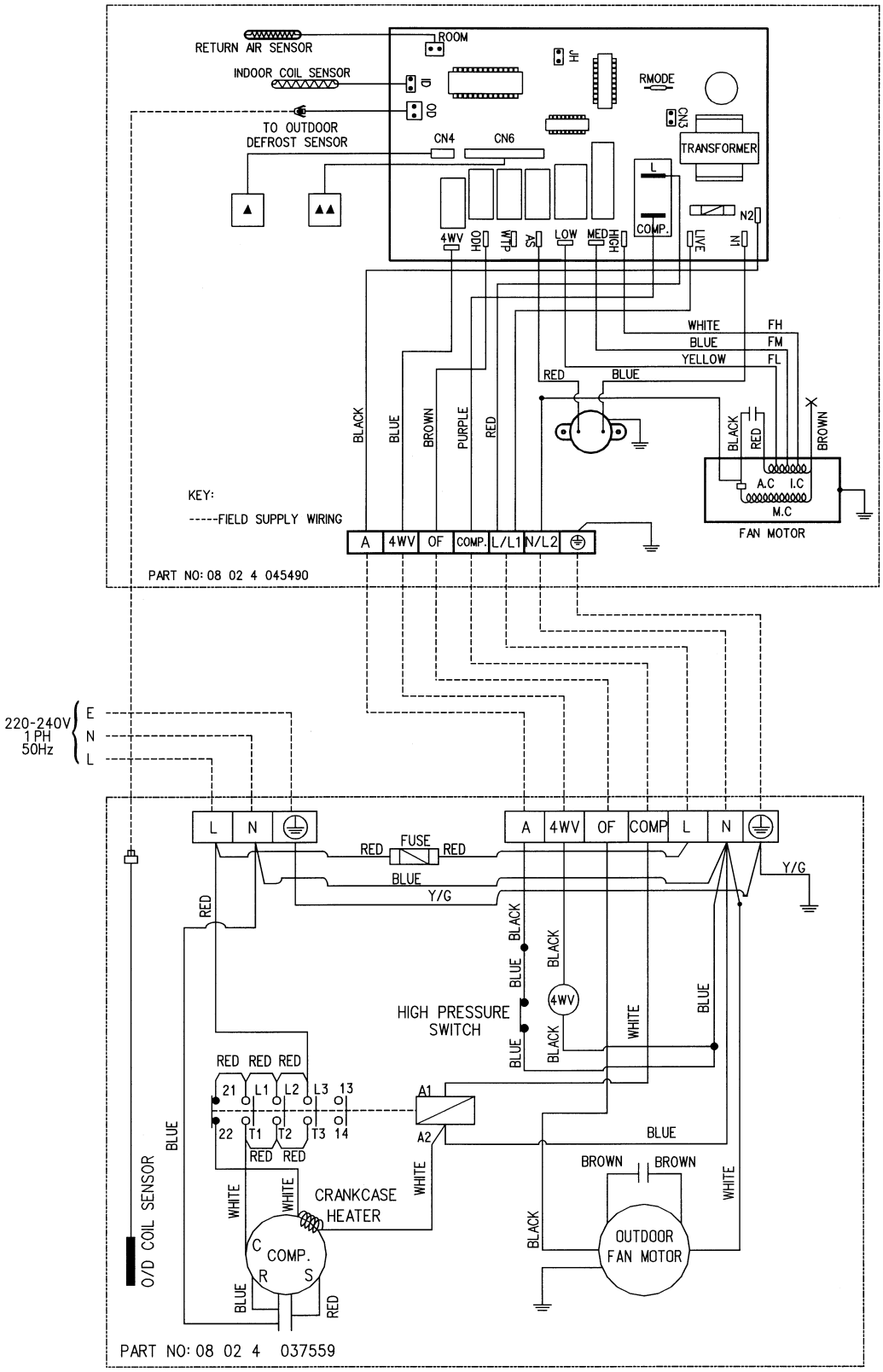
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

OUTDOOR UNIT
MODEL: MLC/ M4LC030CR

INDOOR UNIT
MODEL : MCM040DR



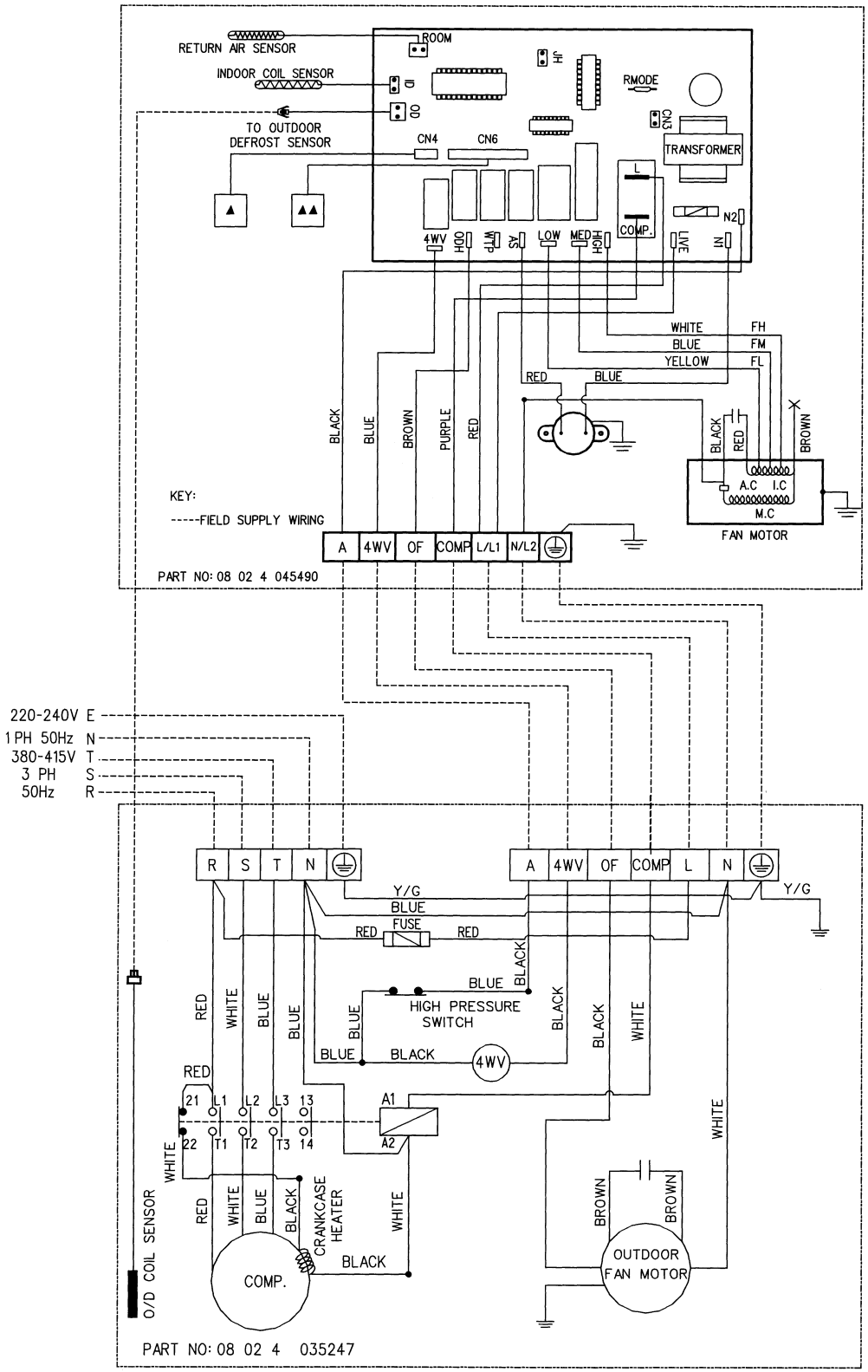
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

OUTDOOR UNIT
MODEL: MLC035CR

INDOOR UNIT
MODEL : MCM040/ 050DR



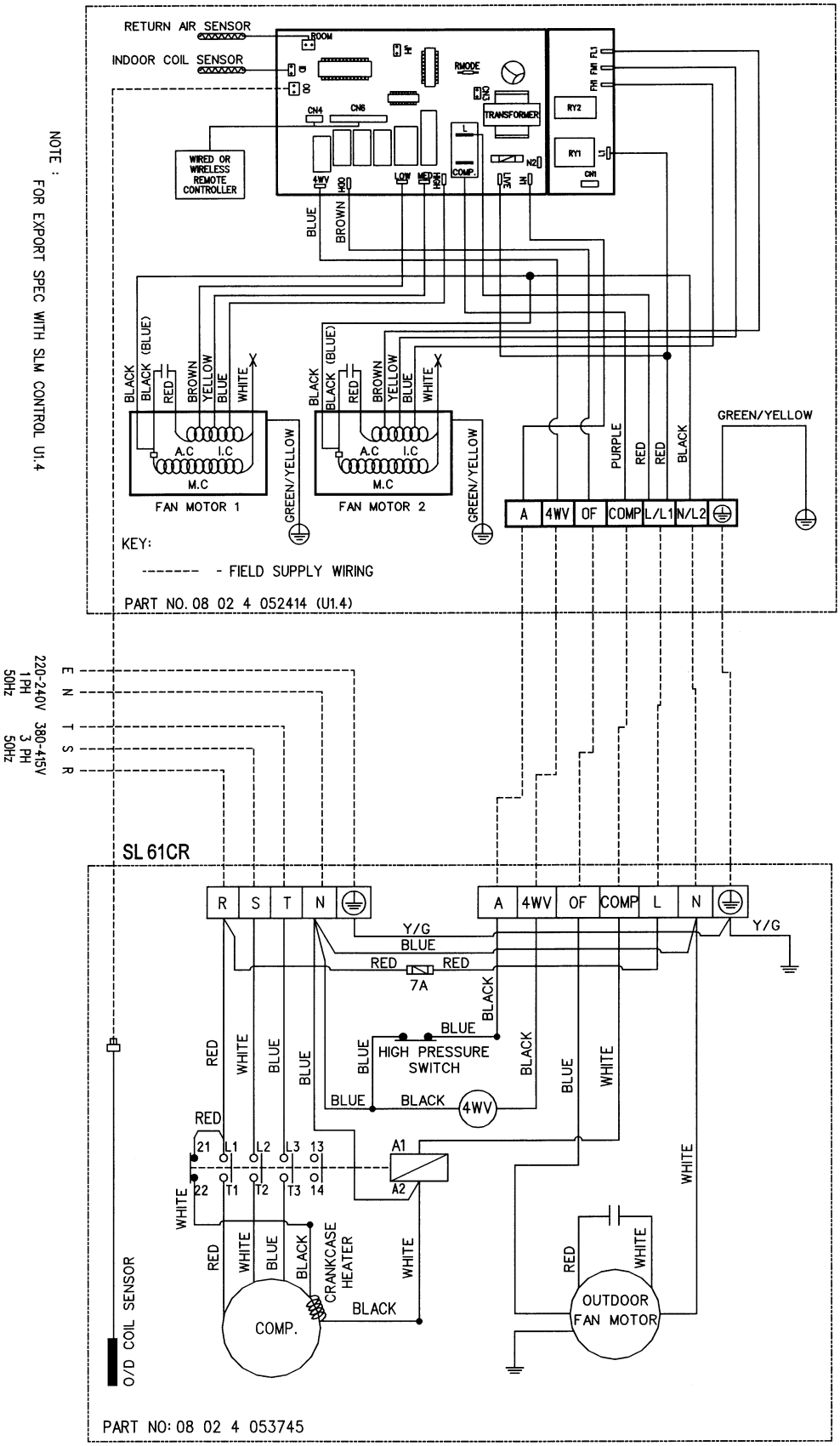
▲ CN4 IS CONNECTED TO WIRED HANDSET

▲▲ CN6 IS CONNECTED TO SENSOR & INDICATOR LIGHT OF WIRELESS HANDSET

REMARK - EITHER CN4 OR CN6 CAN BE CONNECTED AT ANY ONE TIME

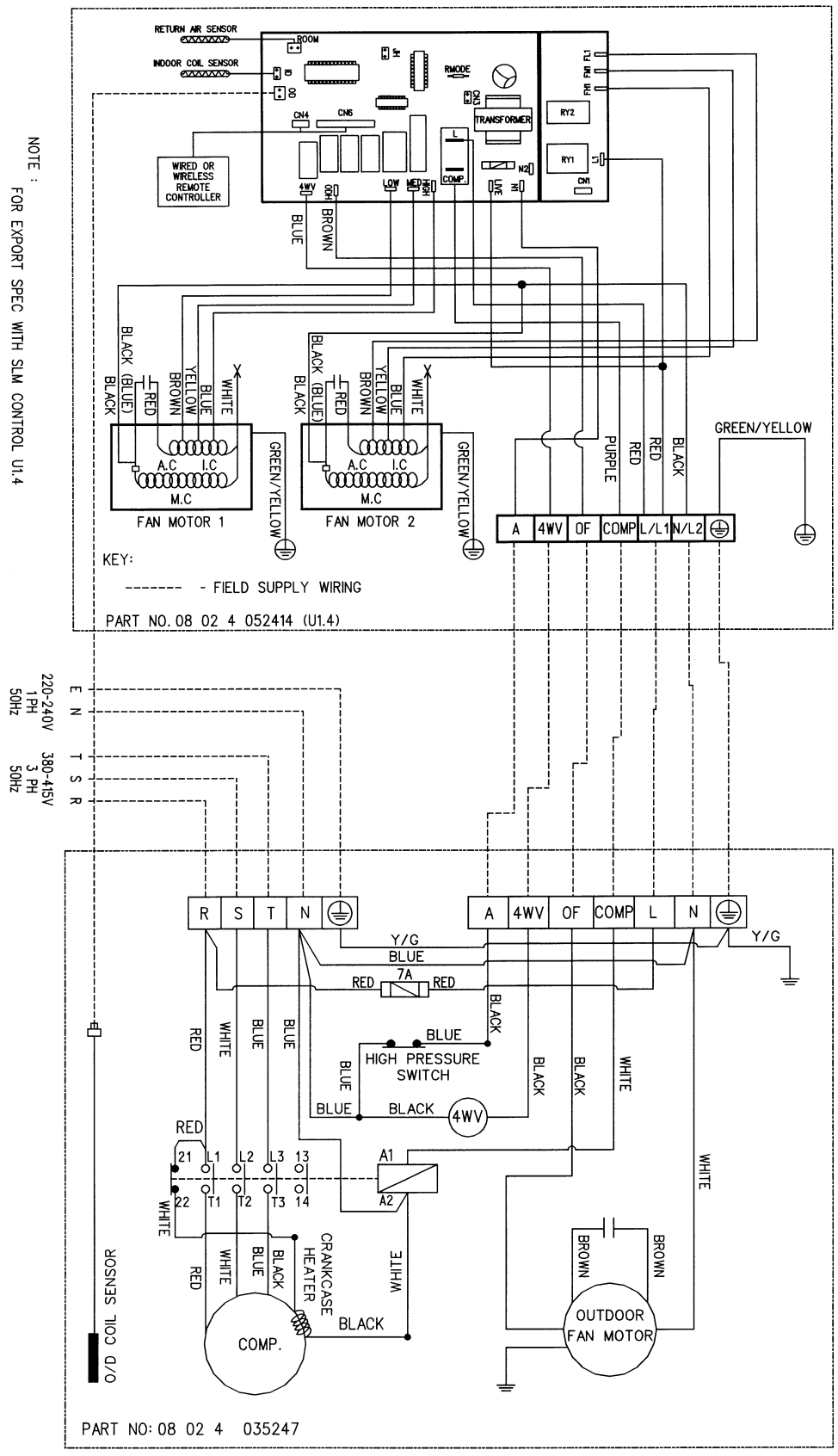
OUTDOOR UNIT
MODEL: MLC/ M4LC040/ 050CR

INDOOR UNIT
MODEL : MCM061/ 062CR



OUTDOOR UNIT
MODEL: MLC/M4LC061CR

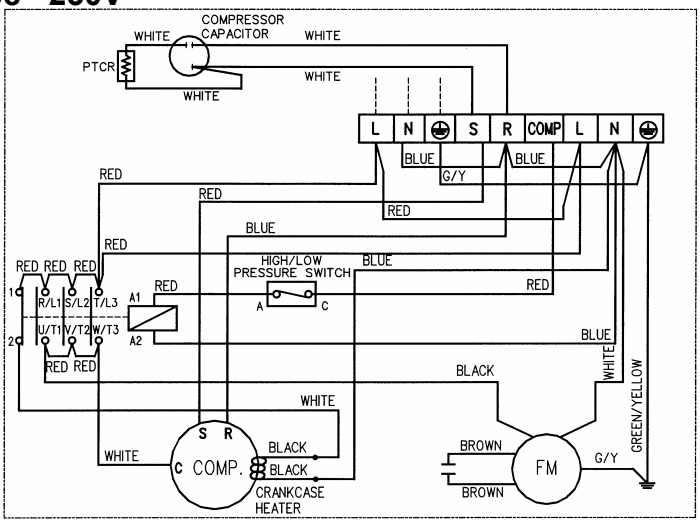
INDOOR UNIT
MODEL : MCM061/ 062CR



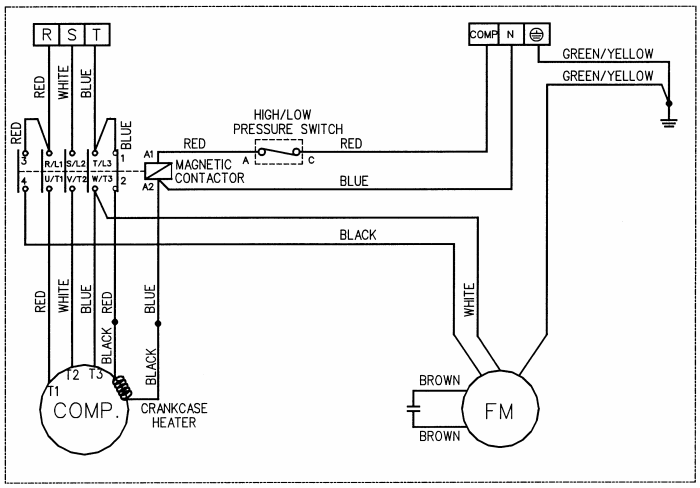
OUTDOOR UNIT
MODEL: MLC/ M4LC060CR

ATTACHMENT
60HZ OUTDOOR UNIT

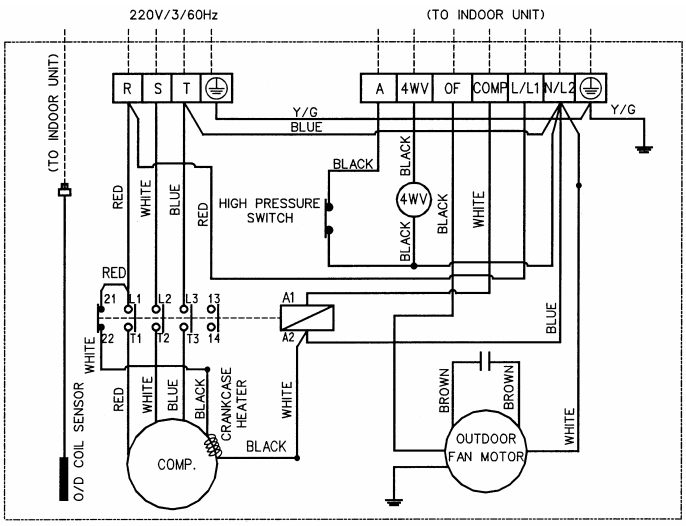
MODEL : MLC 30C (COOLING ONLY)
60HZ / 1 PHASE / 208 ~230V



MODEL : MLC040/ 050C (COOLING ONLY)
60HZ / 3 PHASE / 200 ~230V

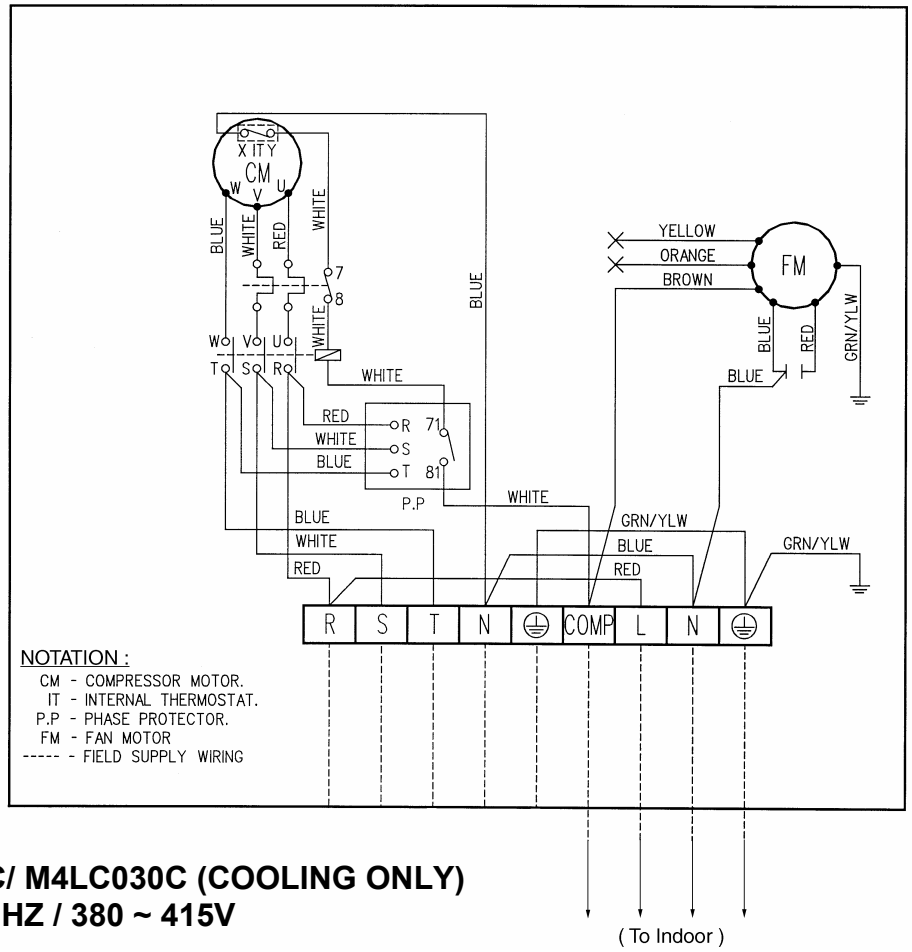


MODEL : MLC040/ 050CR (COOLING ONLY)
60HZ / 3 PHASE / 200 ~230V

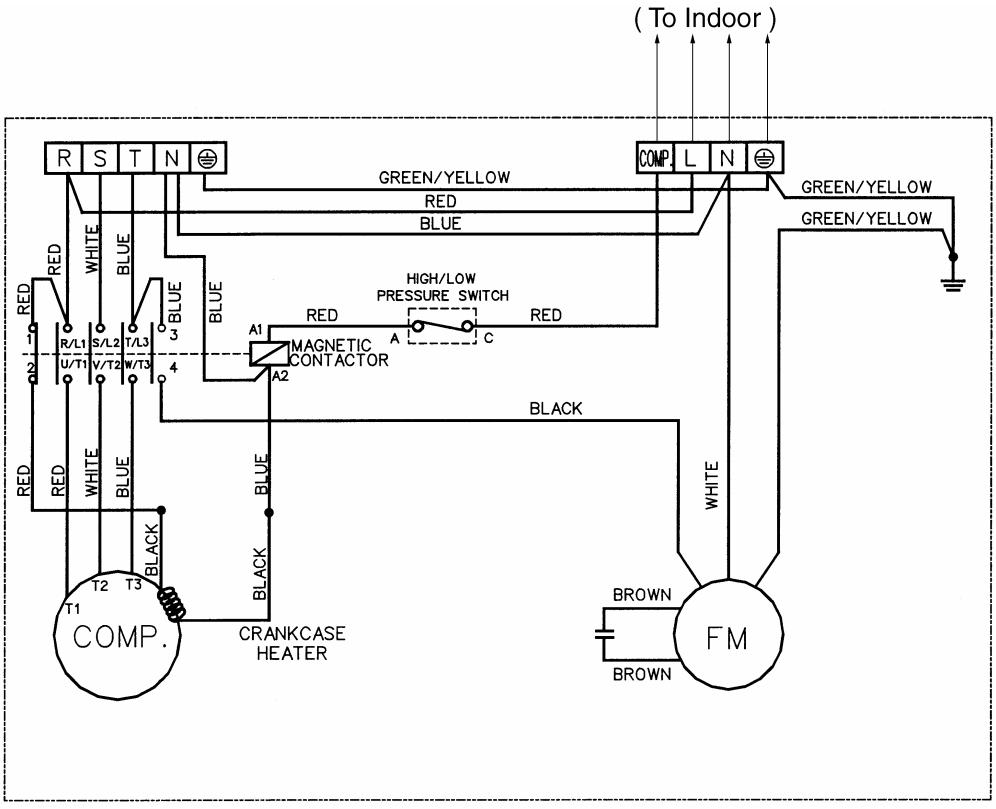


3 PHASE FOR 2 & 3 HP OUTDOOR UNIT

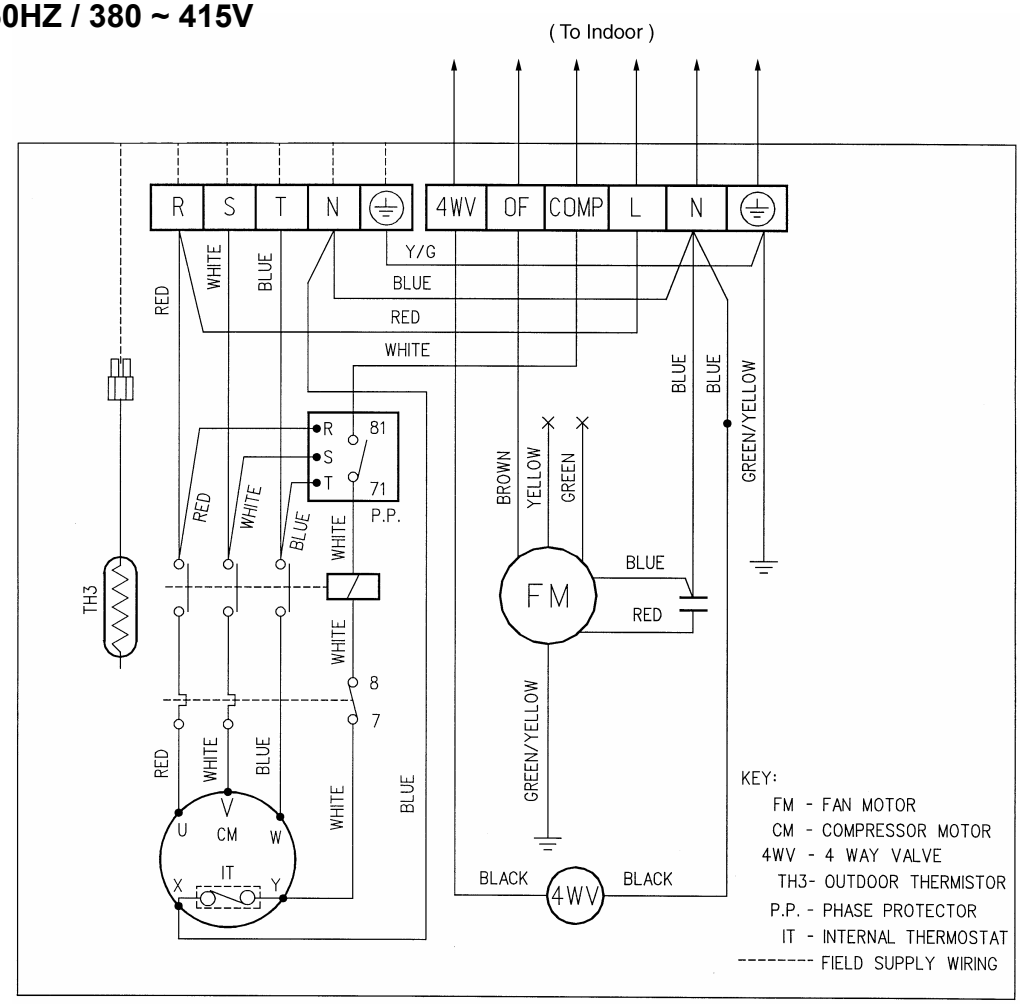
MODEL : MLC/ M4LC020/ 025B (COOLING ONLY)
3 PHASE / 50 HZ / 380 ~ 415V



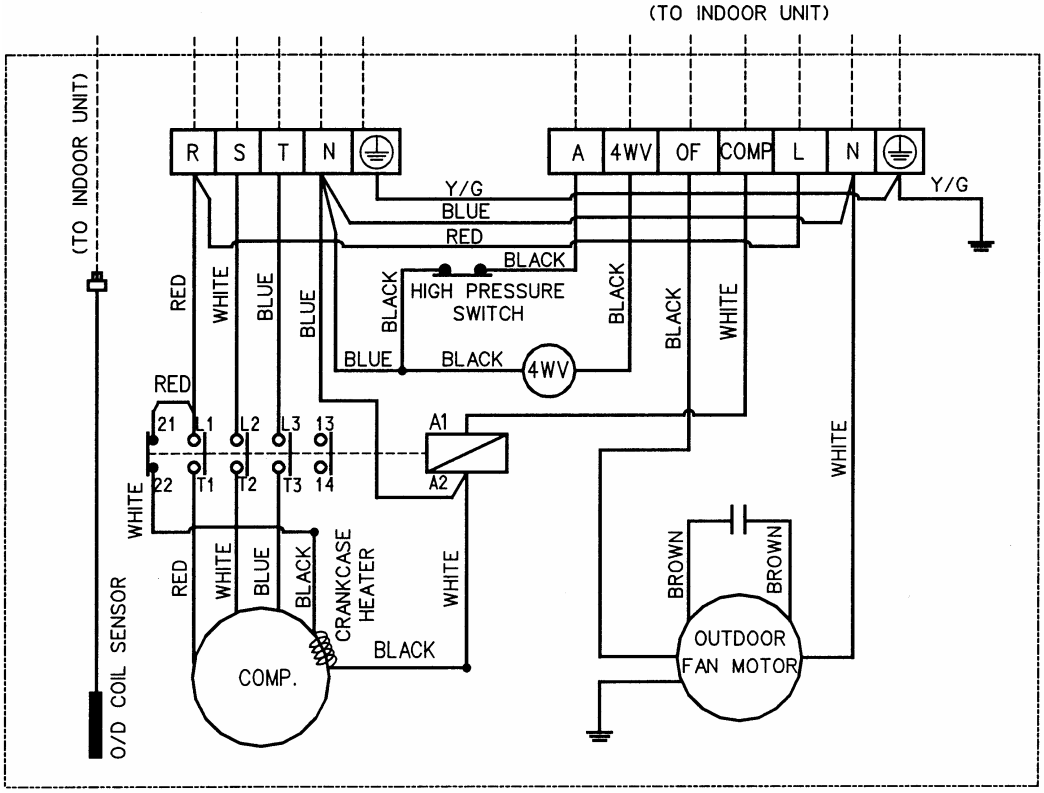
MODEL : MLC/ M4LC030C (COOLING ONLY)
3 PHASE / 50 HZ / 380 ~ 415V



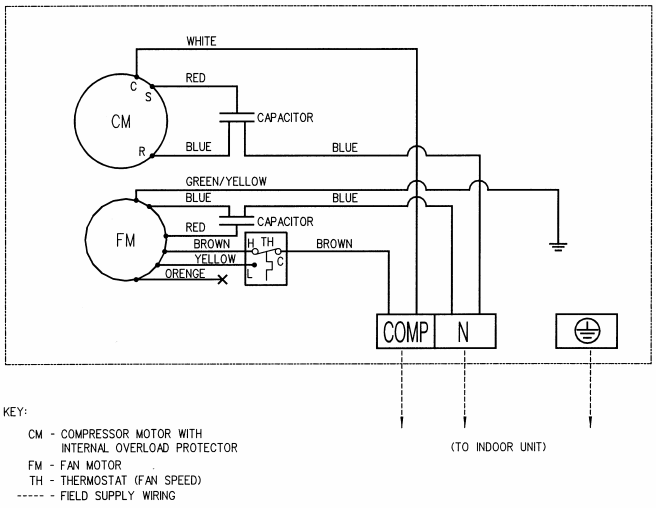
MODEL : MLC/ M4LC020/ 025BR (HEAT PUMP)
3 PHASE / 50HZ / 380 ~ 415V



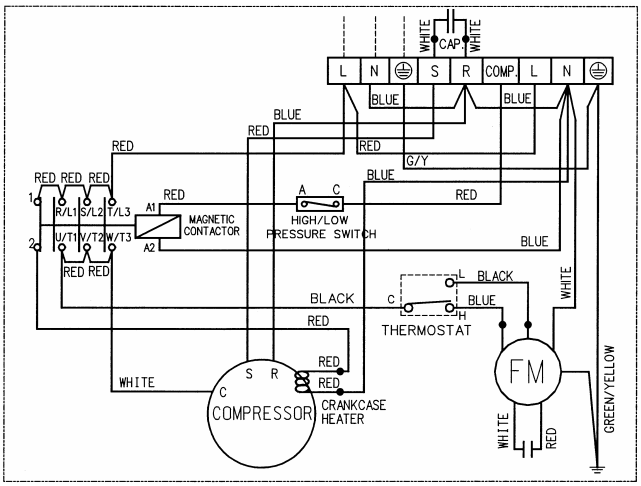
MODEL : MLC/ M4LC030CR (HEAT PUMP)
3 PHASE / 50HZ / 380 ~ 415V



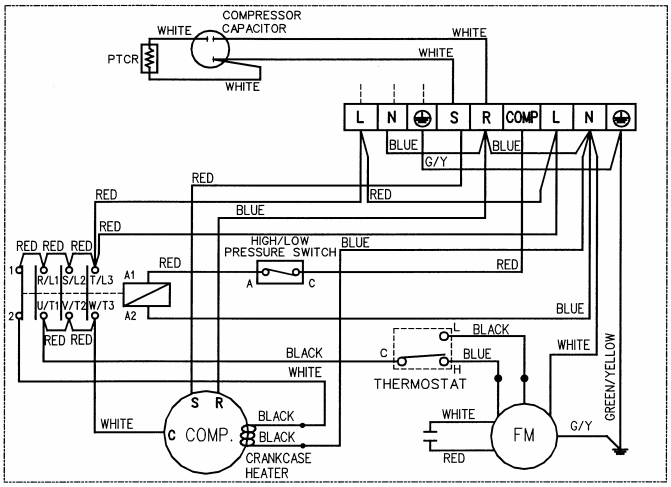
HIGH AMBIENT UNIT
OUTDOOR UNIT
MODEL : MLC020/ 025B (COOLING ONLY)
50HZ / 1 PHASE / 220 – 240V, 60HZ / 1 PHASE / 208 – 230V



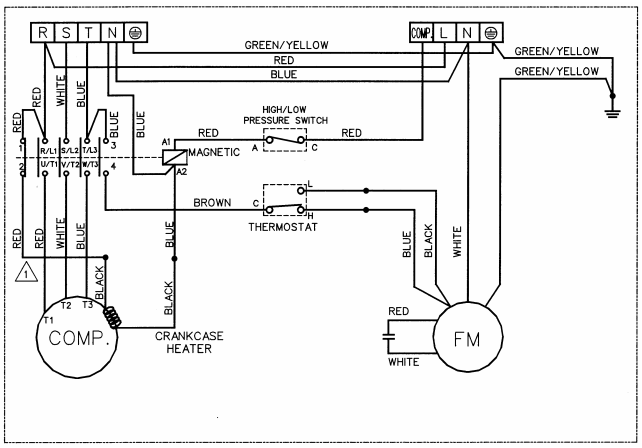
OUTDOOR UNIT
MODEL : MLC030C (COOLING ONLY)
50HZ / 1 PHASE / 220 – 240V,



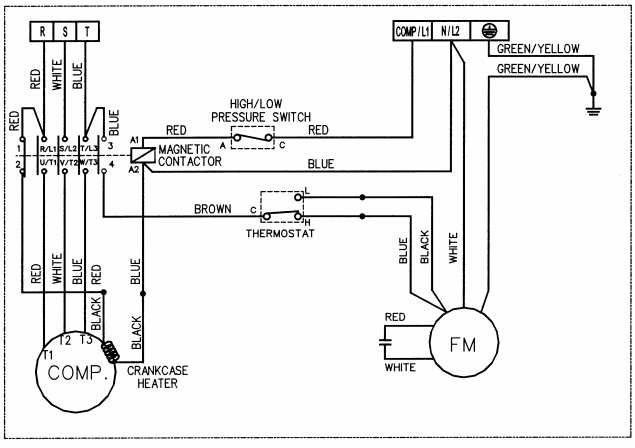
60HZ / 1 PHASE / 208 – 230V



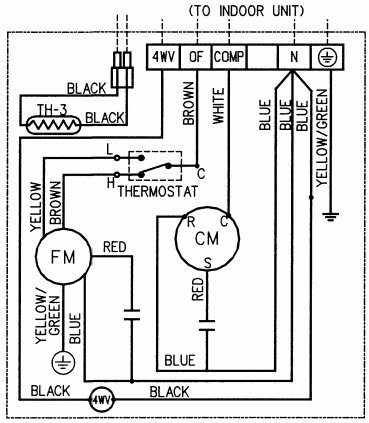
OUTDOOR UNIT
MODEL : MLC040/ 050C (COOLING ONLY)
50HZ / 3 PHASE / 380 – 415V,



60HZ / 3 PHASE / 200 – 230V

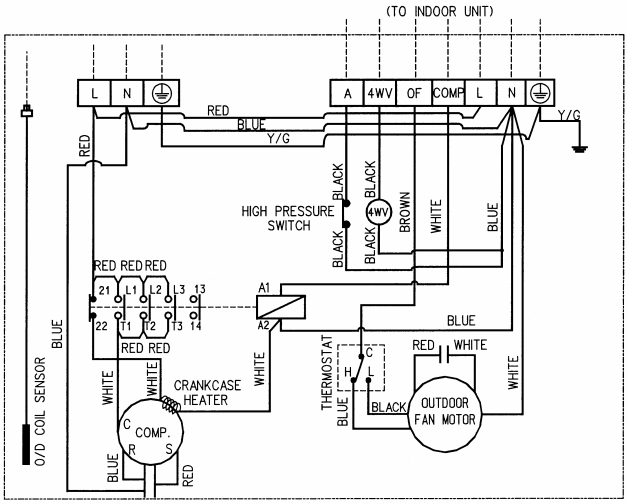


OUTDOOR UNIT
MODEL : MLC020/ 025BR (HEAT PUMP)
50HZ / 1 PHASE / 220 – 240V

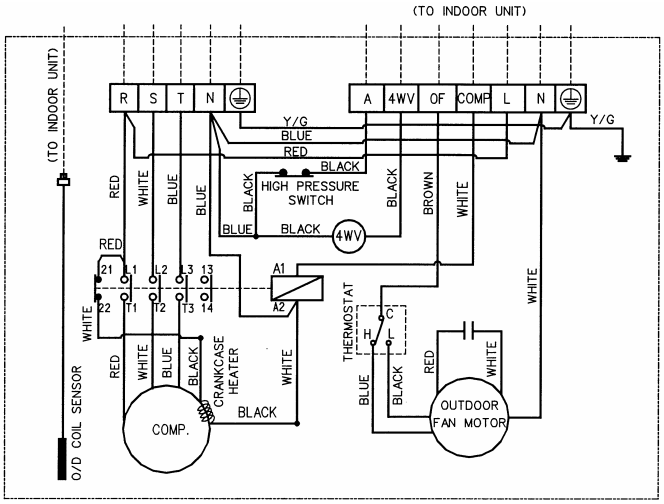


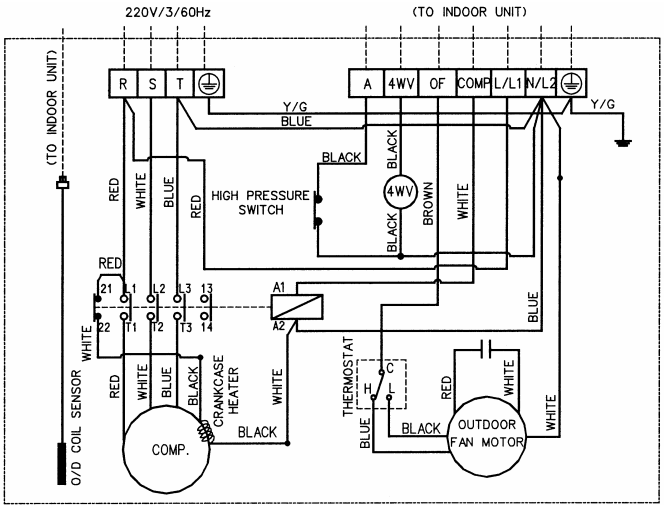
KEY:
FM - FAN MOTOR
CM - COMPRESSOR MOTOR
4WV - 4 WAY VALVE
TH3 - OUTDOOR THERMISTOR
------- FIELD SUPPLY WIRING

OUTDOOR UNIT
MODEL : MLC030CR (HEAT PUMP)
50HZ / 1 PHASE / 220 – 240V, 60 HZ / 1 PHASE / 220V



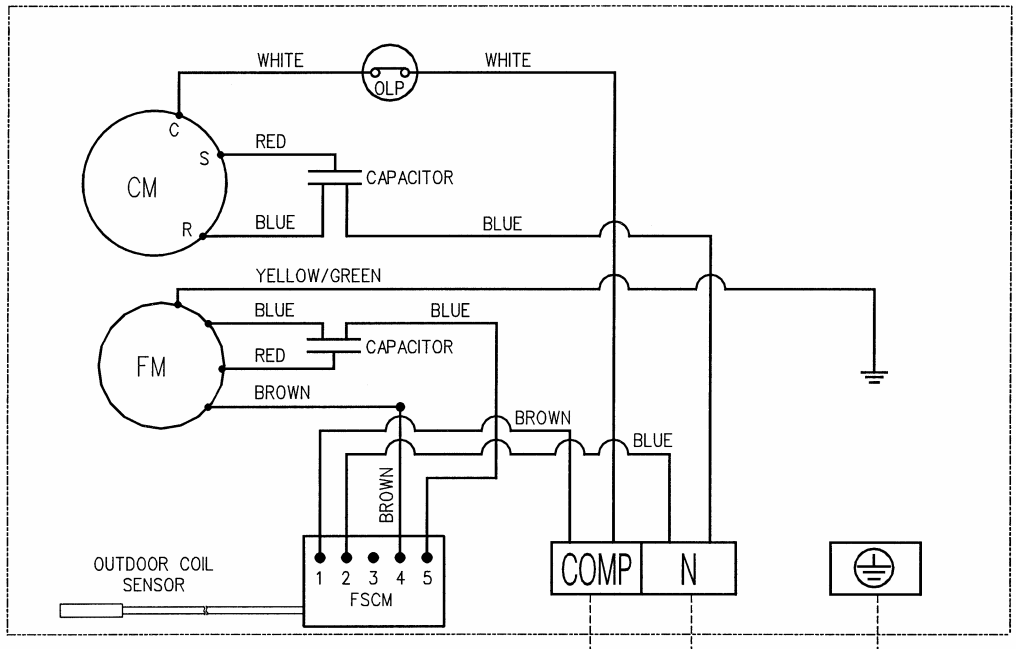
OUTDOOR UNIT
MODEL : MLC040/ 050CR (HEAT PUMP)
50HZ / 3 PHASE / 380 – 415V, **60HZ / 3 PHASE / 220V**





LOW AMBIENT UNIT (OPTIONAL)

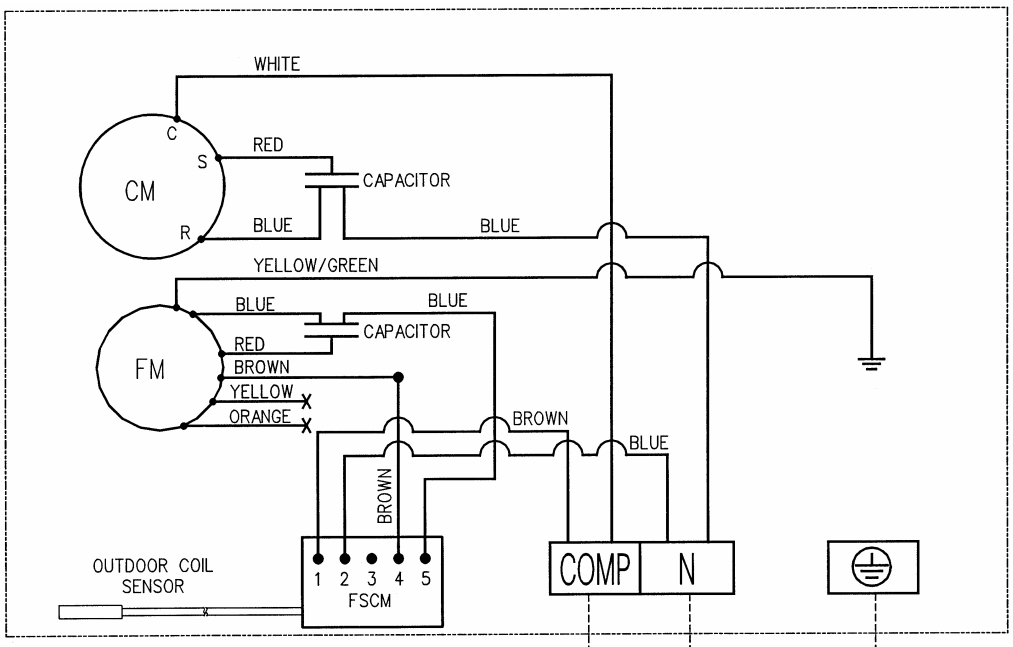
OUTDOOR UNIT
MODEL : MLC010B / 015B (50HZ)



KEY:
CM - COMPRESSOR MOTOR
FM - FAN MOTOR
OLP - OVERLOAD PROTECTOR
FSCM - FAN SPEED CONTROL MODULE
----- - FIELD SUPPLY WIRING

(TO INDOOR UNIT)

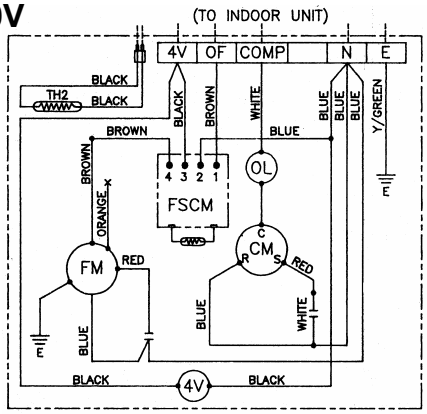
OUTDOOR UNIT
MODEL : MLC020B / 025B (50HZ)



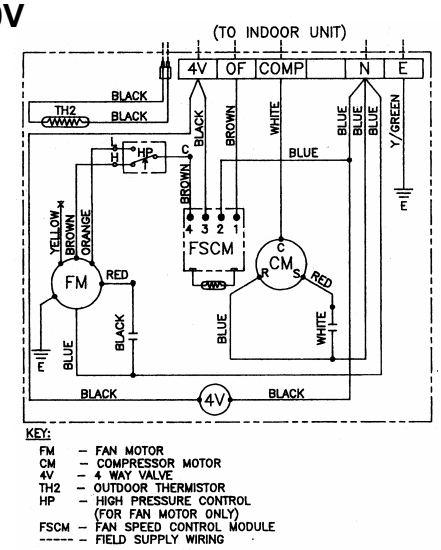
KEY:
CM - COMPRESSOR MOTOR
FM - FAN MOTOR
OLP - OVERLOAD PROTECTOR
FSCM - FAN SPEED CONTROL MODULE
----- - FIELD SUPPLY WIRING

(TO INDOOR UNIT)

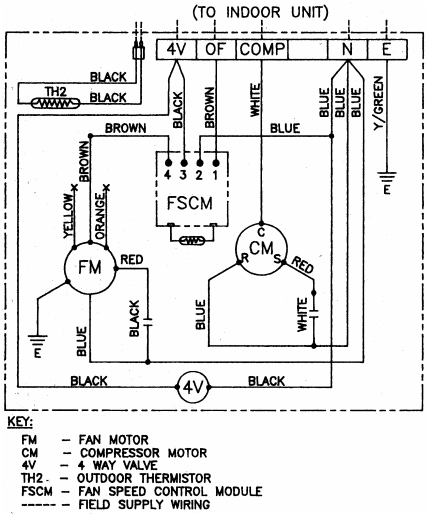
LOW AMBIENT UNIT
OUTDOOR UNIT
MODEL : MLC010/ 015BR
50HZ / 1 PHASE / 220 – 240V



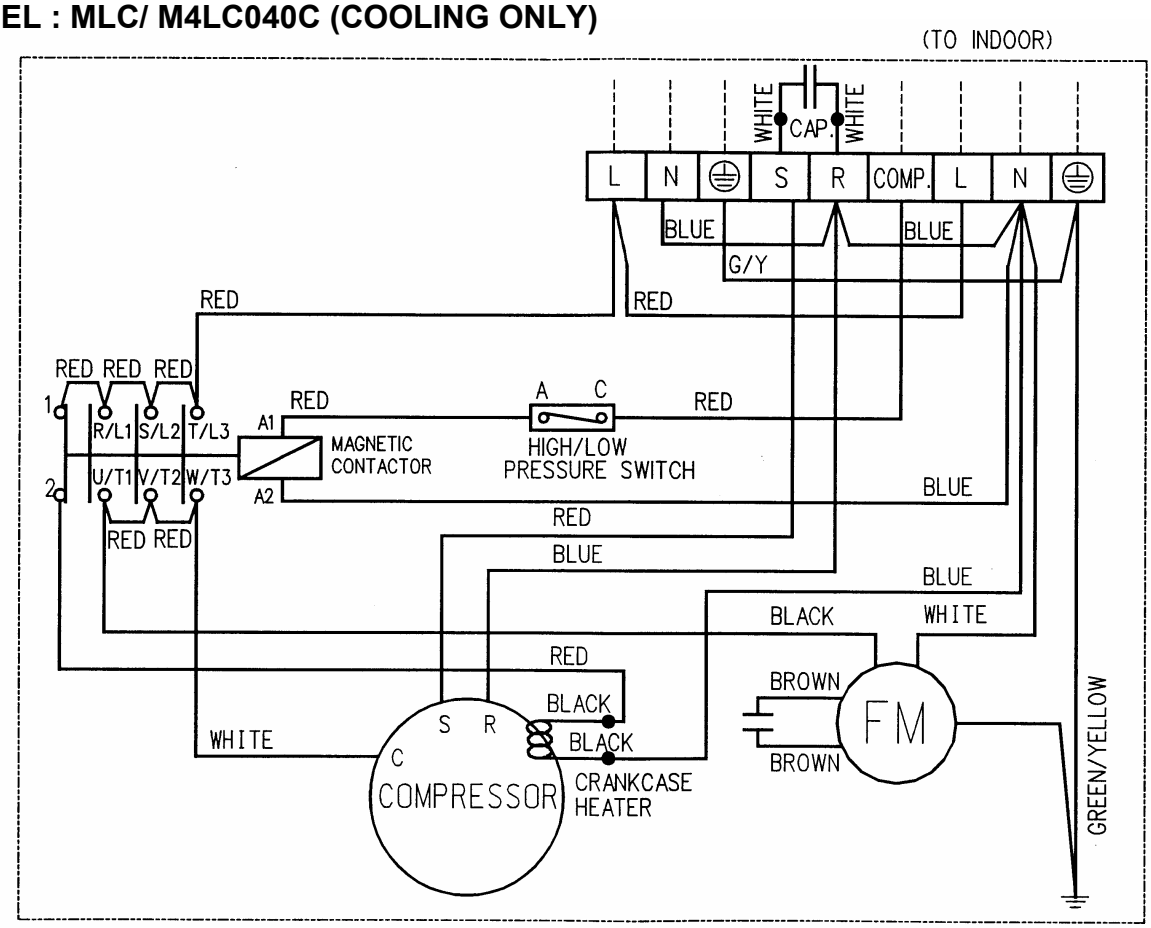
OUTDOOR UNIT
MODEL : MLC020BR
50HZ / 1 PHASE / 220 – 240V



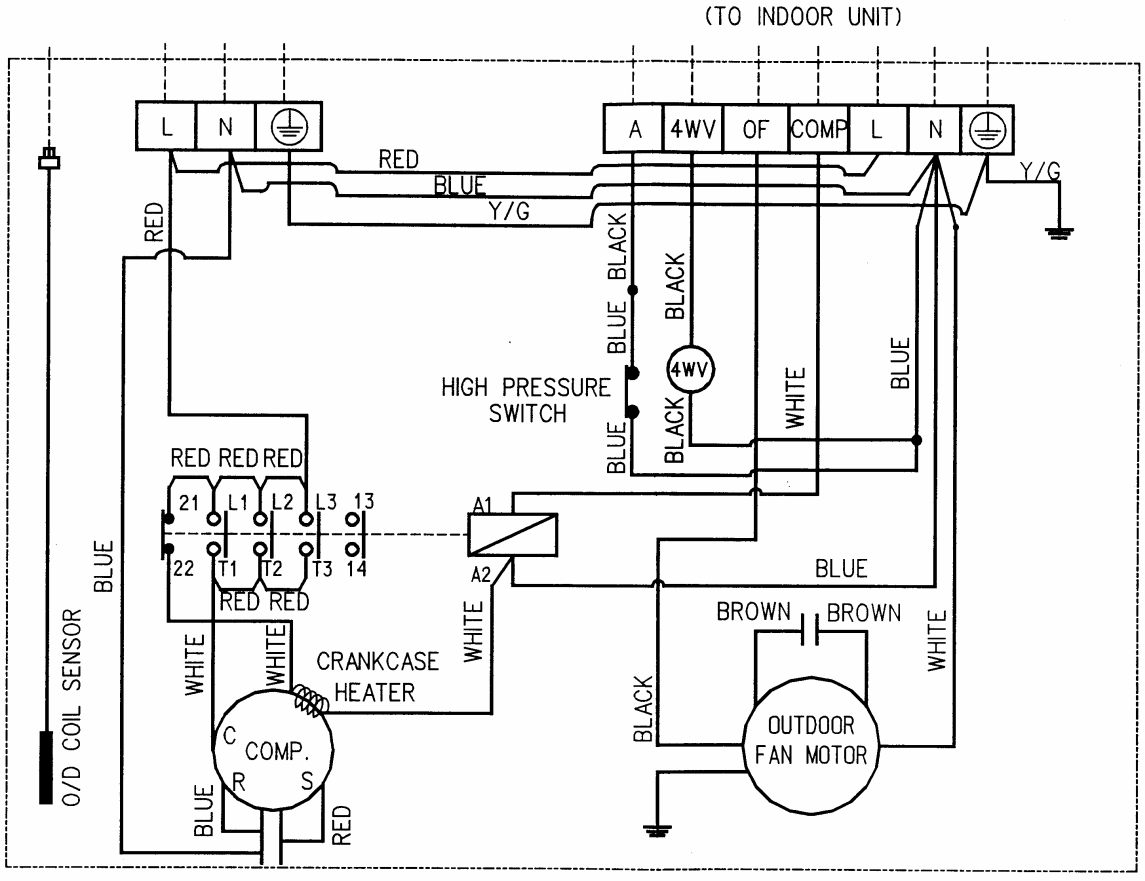
OUTDOOR UNIT
MODEL : MLC025BR
50HZ / 1 PHASE / 220 – 240V



SINGLE PHASE FOR 4HP OUDOOT UNIT
MODEL : MLC/ M4LC040C (COOLING ONLY)



MODEL : MLC/ M4LC040CR (HEATPUMP)



Special Precautions for R407

Special Precautions When Dealing With Refrigerant R407C Unit

1) What is new refrigerant R407C?

R407C is a zeotropic refrigerant mixture which has Zero Ozone Depletion Potential (ODP = 0) and thus conformed to the Montreal Protocol regulation. It requires Polyol-ester oil (POE) oil for its compressor's lubricant. Its refrigerant capacity and performance are about the same as the refrigerant R22.

2) Components

Mixture weight composition R32(23%), R125(25%), R134a(52%)

3) Characteristic

- R407C liquid and vapor components have different compositions when the fluid evaporates or condenses. Hence, when leak occurs and only vapor leaks out, the composition of the refrigerant mixture left in the system will change and subsequently affect the system performance. **DO NOT** add new refrigerant to leaked system. It is recommended that the system should be evacuated thoroughly before recharging with R407C.
- When refrigerant R407C is used, the composition will differ depending on whether it is in gaseous or liquid phase. Hence when charging R407C, ensure that only liquid is being withdrawn from the cylinder or can. This is to make certain that only original composition of R407C is being charged into the system.
- POE oil is used as lubricant for R407C compressor, which is different from the mineral oil used for R22 compressor. Extra precaution must be taken not to expose the R407C system too long to moist air.

4) Check list before installation/servicing

- Tubing
  Refrigerant R407C is more easily affected by dust of moisture compared with R22, make sure to temporarily cover the ends of the tubing prior to installation
- Compressor oil
  No additional charge of compressor oil is permitted.
- Refrigerant
  No other refrigerant other that R407C
- Tools
  Tools specifically for R407C only (must not be used for R22 or other refrigerant)
  i) Manifold gauge and charging hose
  ii) Gas leak detector
  iii) Refrigerant cylinder/charging cylinder
  iv) Vacuum pump c/w adapter
  v) Flare tools
  vi) Refrigerant recovery machine

5) Handling and installation guidelines

Like R22 system, the handling and installation of R407C system are closely similar. All precautionary measures; such as ensuring no moisture, no dirt or chips in the system, clean brazing using nitrogen, and thorough leak check and vacuuming are equally important requirements. However, due to zeotropic nature of R407C and its hydroscopic POE oil, additional precautions must be taken to ensure optimum and trouble-free system operation.

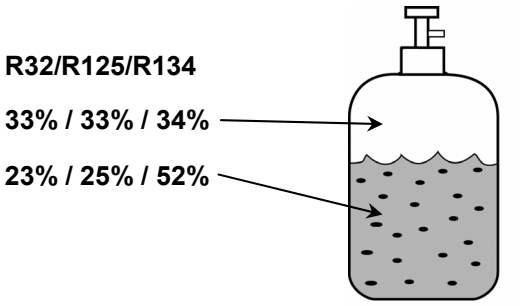
a) Filter-dryer must be installed along the liquid line for all R407C air conditioners. This is to minimise the contamination of moisture and dirt in the refrigerant system. Filter-dryer must be of molecular sieve type. For a heat-pump system, install a two-way flow filter dryer along the liquid line.

b) During installation or servicing, avoid prolong exposure of the internal part of the refrigerant system to moist air. Residual POE oil in the piping and components can absorb moisture from the air.

c) Ensure that the compressor is not expose to open air for more than the recommended time specified by its manufacturer (typically less than 10 minutes). Removed the seal-plugs only when the compressor is about to be brazed.

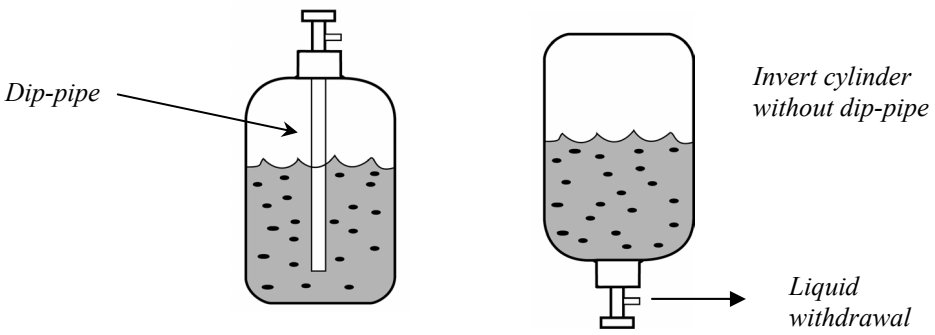
d) The system should be thoroughly vacuumed to 1.0 Pa (-700mmHg) or lower. This vacuuming level is more stringent than R22 system so as to ensure no incompressible gas and moisture in the system.

e) When charging R407C, ensure that only liquid is being withdrawn from the cylinder or can. This is to ensure that only the original composition of R407C is being delivered into the system. The liquid composition can be different from the vapor composition.



Composition of R407C in vapour phase is different from liquid phase.

f) Normally, the R407C cylinder or can is being equipped with a dip-pipe for liquid withdrawal. However, if the dip-pipe is not available, invert the cylinder or can so as to withdraw liquid from the valve at the bottom.



g) When servicing leak, the top-up method, commonly practiced for R22 system, is not recommended for R407C system. Unlike R22 where the refrigerant is of a single component, the composition of R407C, which made-up of three different components, may have changed during the leak. Consequently, a top-up may not ensure that the R407C in the system is of original composition. This composition shift may adversely affect the system performance. It is recommended that the system should be evacuated thoroughly before recharging with R407C.

Installation

Sharp edges and coil surfaces are potential injury hazard. Avoid from contact with them.

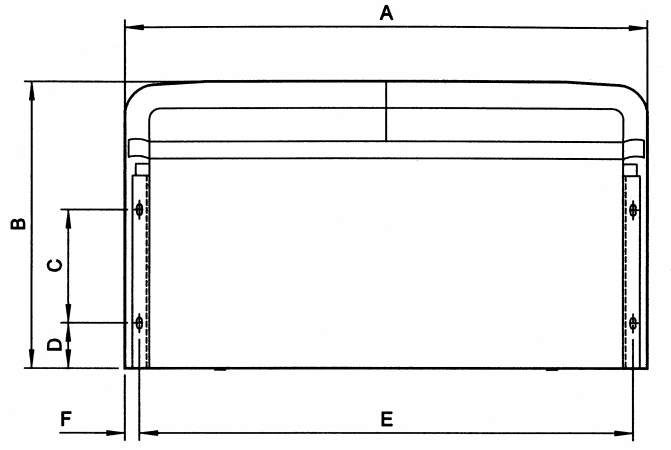
(1) Installation of Outdoor Unit

Preliminary Site Survey

- Electrical supply and installation is to conform to local authority's (e.g. National Electrical Board) codes and regulations.
- Voltage supply fluctuation must not exceed ± 10% of rated voltage. Electricity supply lines must be independent of welding transformer which can cause high supply fluctuations.
- Ensure that the location is convenient for wiring, piping and drainage

Standard Mounting

Ensure that the overhead supports are strong enough to hold the weight of the unit. Position the hanger rods (wall mounting bracket for floor standing), and check for its alignment with the unit as shown in Figure A. Also, check that the hangers are secured and the base of the fan coil unit is leveled in both horizontal directions, taking into account the gradient for drainage flow as recommended in Figure B.



Model	MCM020D/ DR	MCM025D/ DR	MCM030D/ DR	MCM040D/ DR	MCM050D/ DR
A	1214	1214	1214	1714	1714
B	666	666	666	666	666
C	273	273	273	273	273
D	130	130	130	130	130
E	1136	1136	1136	1636	1636
F	39	39	39	39	39

MCM061C/CR

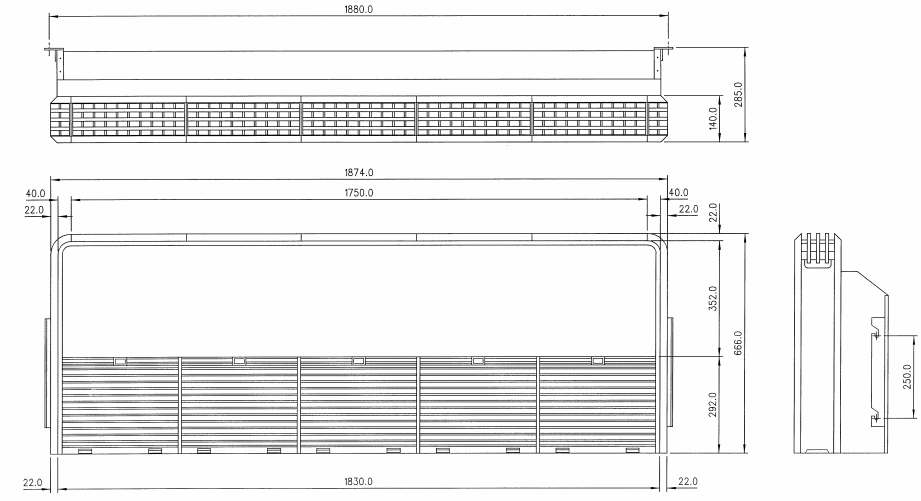


Figure A

MCM-D **MCM061C**

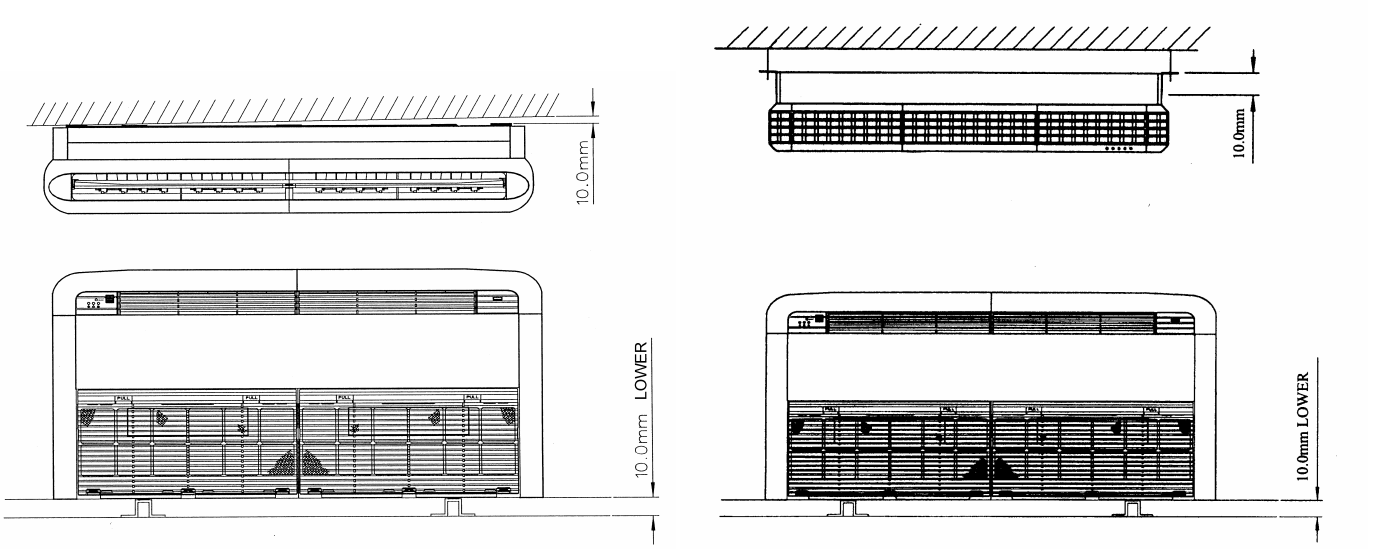


Figure B

Please ensure that the following steps are taken :

- Check the gradient for drainage flow as recommended in Figure B.
- Provide clearance for easy servicing and optimal air flow as shown in Figure C.
- The indoor unit must be installed such that there is no short circuit of the cool discharge air with the warm return air.
- Do not install the indoor unit where there is direct sunlight shining on the unit. The location should be suitable for piping and drainage installation. The unit must be a large distance away from the door.

Semi-Enclosed Mounting

- In case the unit is to be half recessed into false ceiling, please check the unit is well align.

MCM-D

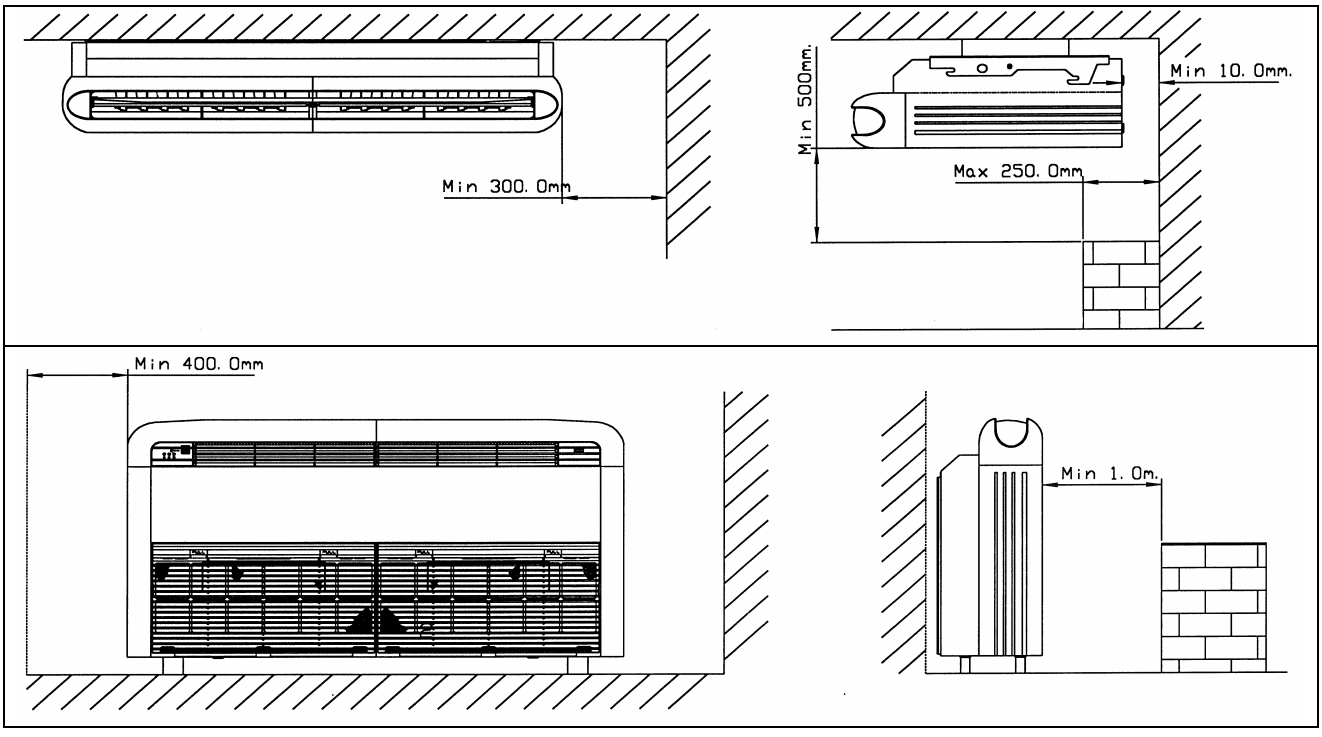


Figure C

MCM061/ 062C

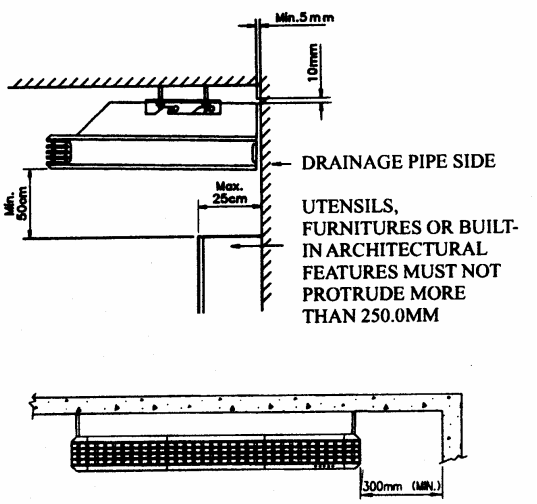
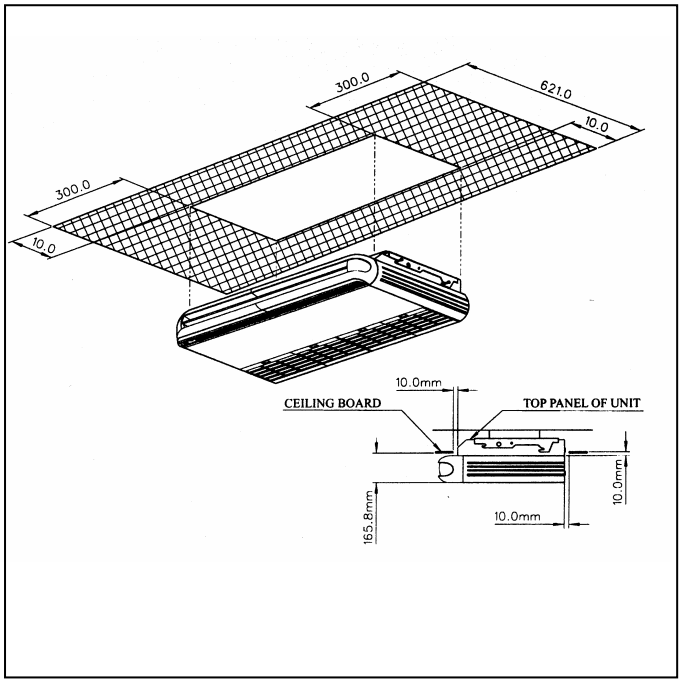


Figure C

- Provide the installation space as shown in Figure D.

MCM-D



MCM061/ 062C

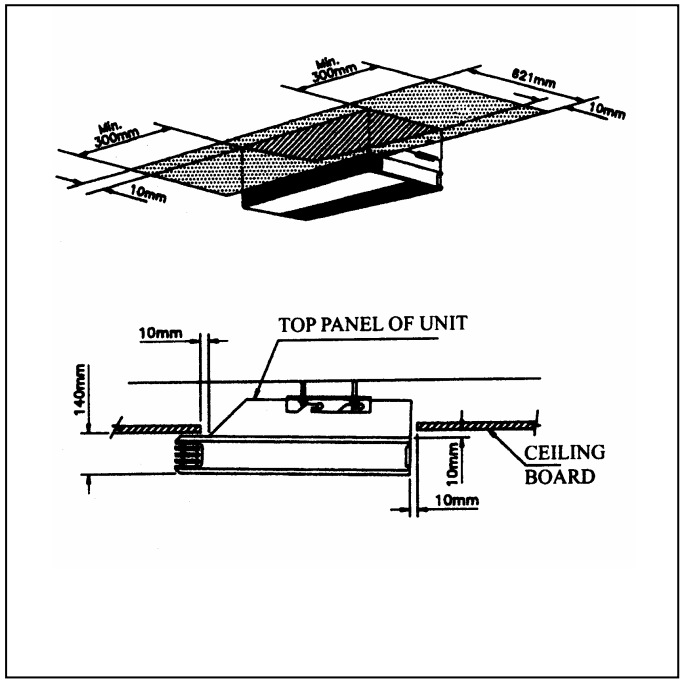


Figure D

Installation - Ceiling Exposed Type

STEP 1
Remove air intake grille, side panel, side close-up and hanger bracket from the unit; see Fig E.

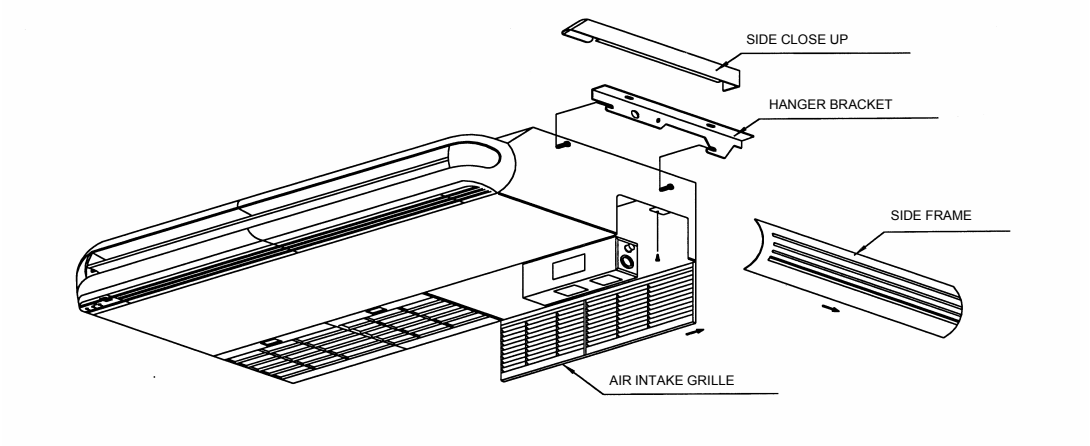


Figure E

STEP 2
Position the hanger rods as per Fig B and install the hanger bracket; see Fig F.

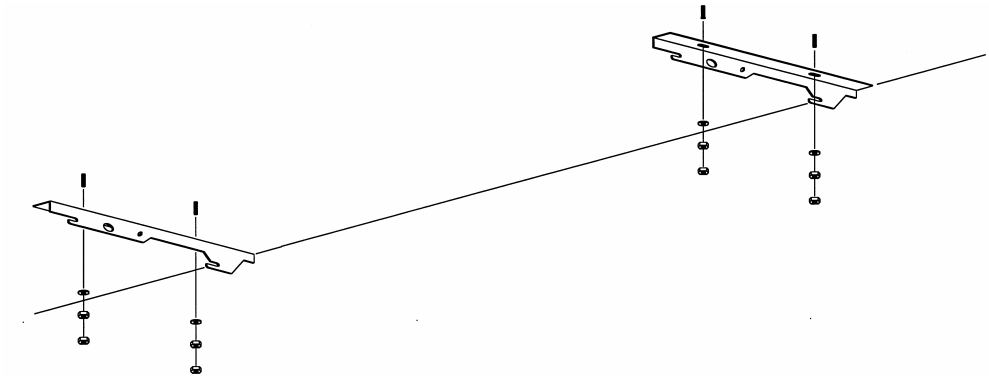


Figure F

STEP 3
Hanger up the unit and tighten the bolt, after completed the piping and drain pipe; install back the grille and panel Fig. G.

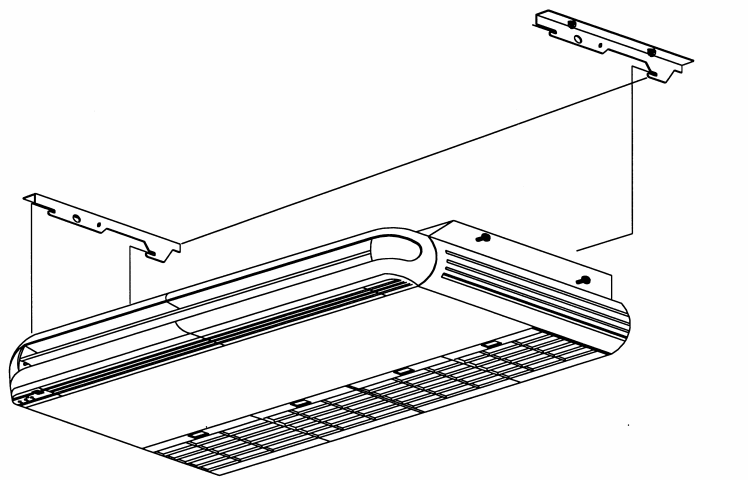


Figure G

Installation - Floor Standing Type (OPTIONAL SPECIFICATION)

STEP 1
Remove air intake grille, side panel, side close-up and side panel from the unit; see Fig E.

STEP 2
Position the floor support (field supply) as per Fig B. install the unit; see Fig I.

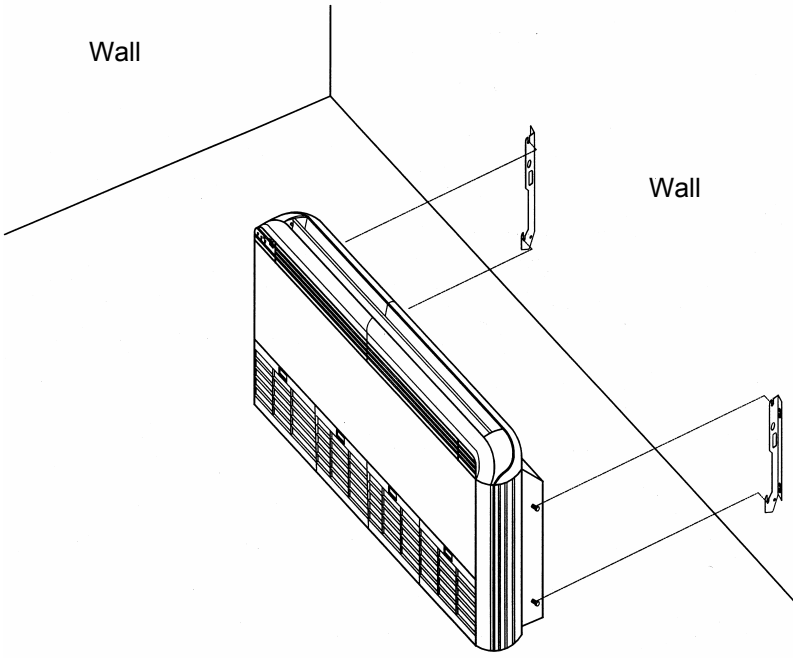


Fig I

STEP 3
Two types of piping and drain pipe connection as Fig J.

Piping and drain pipe installation

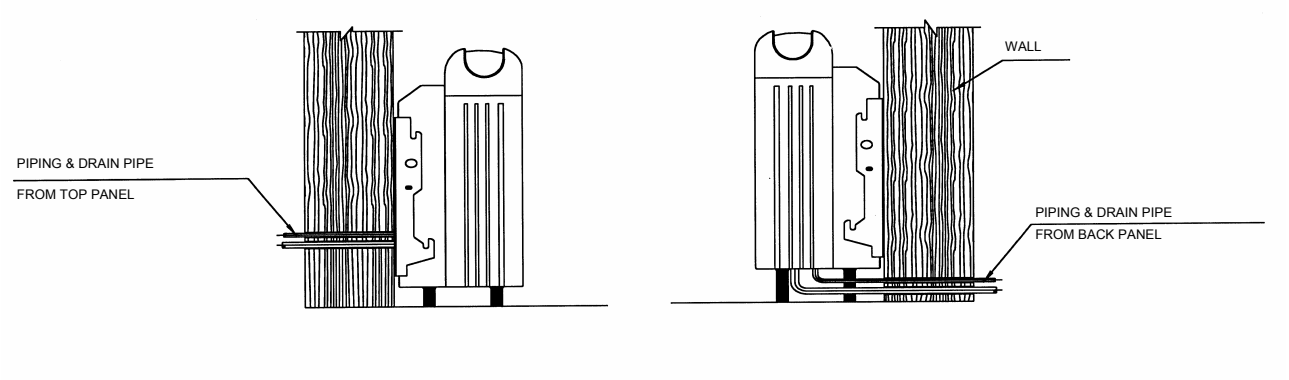
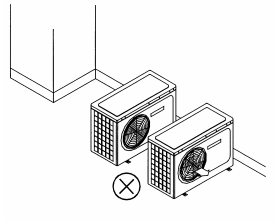


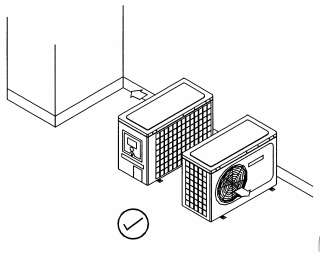
Fig J

(2) Installation of Outdoor Unit

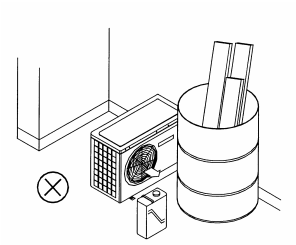
As condensing temperature rises, evaporating temperature rises and cooling capacity drops. In order to achieve maximum cooling capacity, the location selected for outdoor unit should fulfill the following requirements:

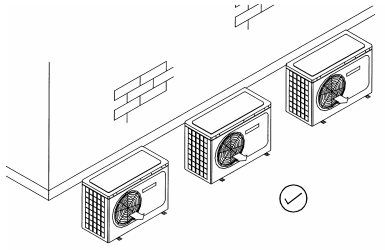
- Install the condensing (outdoor) unit in away such that hot air distributed by the outdoor condensing unit cannot be drawn in again (as in the case of short circuit of hot discharge air). Allow sufficient space for maintenance around the unit.



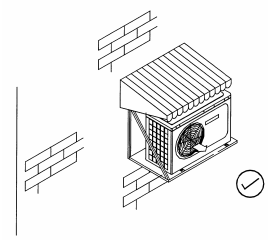


- Ensure that there is no obstruction of air flow into or out of the unit. Remove obstacles which block air intake or discharge.
- The location must be well ventilated, so that the unit can draw in and distribute plenty of air thus lowering the condensing temperature.





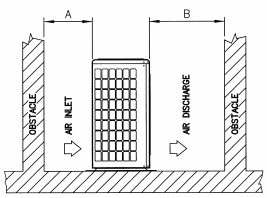
- A place capable of bearing the weight of the outdoor unit and isolating noise and vibration.
- A place protected from direct sunlight. Otherwise use an awning for protection, if necessary.

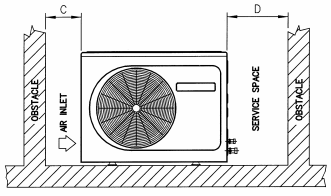


- The location must not be susceptible to dust or oil mist.

Installation Clearance

- Outdoor units must be installed such that there is no short circuit of the hot discharge air or obstruction to smooth air flow. Select the coolest possible place where intake air should not be hotter than the outside temperature (max. 45°C)





Minimum distance	A	B	C	D
MLC/ M4LC020/ 025B/BR, MLC030B/BR	150mm	1000mm	150mm	500mm
MLC/ M4LC030/ 040/ 050C/CR, MLC035C/CR	300mm	1000mm	300mm	500mm
MLC/ M4LC060/ 061/ 062C/CR	300mm	1200mm	500mm	500mm

(3) Refrigerant Piping

Maximum Pipe Length And Maximum Number Of Bends

- When the pipe length becomes too long, both the capacity and reliability drop. As the number of bends increases, system piping resistance to the refrigerant flow increases, thus lowering the cooling capacity, and as the result the font compressor may become defective. Always choose the shortest path and follow the recommendation as tabulated below:

MODEL / DATA	020	025/ 030B	030C	035/ 040	050	060/ 061/ 062
Max. Length, L	15m	15m	35m	35m	35m	35m
Max. Elevation, H	8m	8m	15m	15m	15m	20m
Max. No. of bends	10	10	10	10	10	10

Piping Sizes (Flare Connection Type)

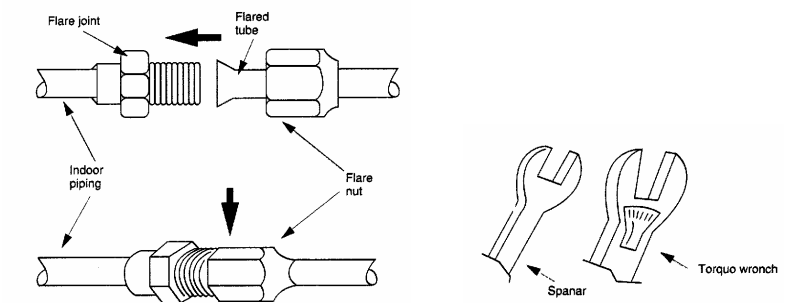
Piping sizes are as follows:

MODEL	020	025/ 030B	030C	035/ 040	050	060/ 061/ 062
Liquid (mm/in)	6.35(1/4)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)	12.7(1/2)
Suction (mm/in)	15.88(5/8)	15.88 (5/8)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)	19.05(3/4)

Piping Connection to the Units

- Align the center of the piping and sufficiently tighten the flare nut with fingers.
- Finally, tighten the flare nut with torque wrench until the wrench clicks.
- When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.

PIPE SIZE (mm/in)	TORQUE (Nm)
6.35(1/4)	18
9.53(3/8)	42
12.7(1/2)	55
15.88(5/8)	65
19.05(3/4)	78



(4) Wiring

Electrical Connections

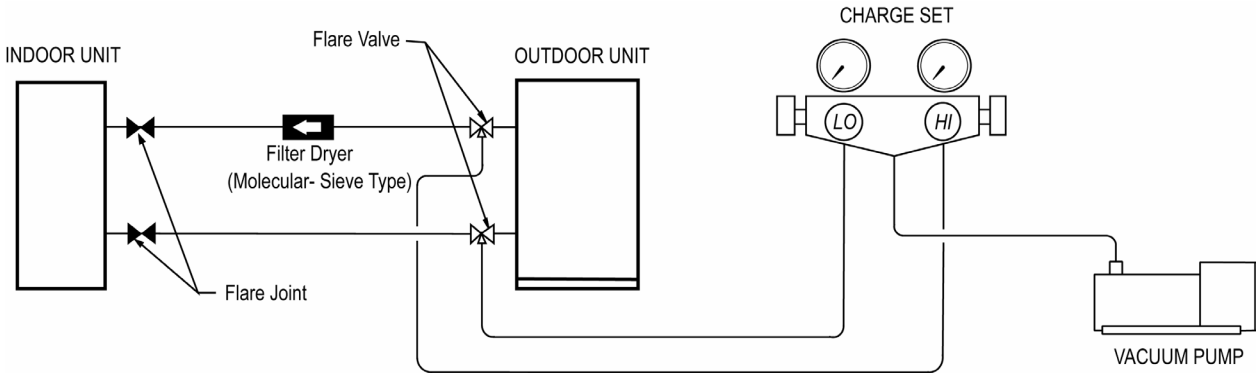
- Wiring regulations on wire diameters differ from country to country. Please refer to your LOCAL ELECTRICAL CODES for field wiring rules. Be sure that installation comply with such rules and regulations.

General Precautions

- Ensure that the rated voltage of the unit corresponds to the name plate before carrying out proper wiring according to the wiring diagram.
- Provide a power outlet to be used exclusively for each unit. A power supply disconnect and a circuit breaker for over-current protection should be provided in the exclusive line.
- The unit must be **GROUNDED** to prevent possible hazards due to insulation failures.
- All wiring must be firmly connected.
- All wiring must not touch the hot refrigerant piping, compressor or any moving parts of fan motors.

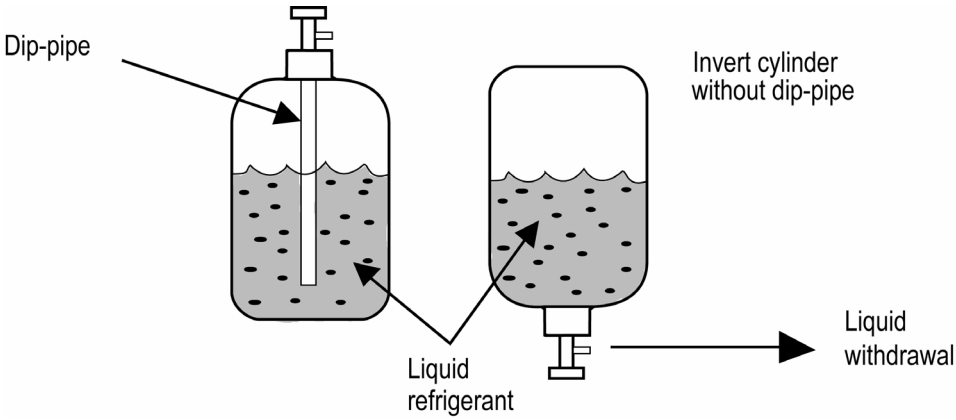
(5) Vacuuming and charging

- The precharged outdoor unit does not need any vacuuming or charging. However once it is connected, the connecting pipe line and the indoor need to be vacuumed before releasing the R22/R407C from the outdoor unit.
  1) Open the service port core cap.
  2) Connect pressure gauge to the service port.
  3) Connect the line to vacuum pump. Open the charging manifold valve and turn the pump on. Vacuum to –0.1 MPa (-760mmHg) or lower. (Evacuation time varies by the pump but averagely in 1 hour).



CAUTION FOR R407C

R407C must be charged as liquid. Usually R407C cylinder is equipped with a dip-pipe for liquid withdrawal. If there is no dip-pipe, the cylinder should be inverted so as to withdraw liquid R407C from the valve.



CAUTION FOR R407C

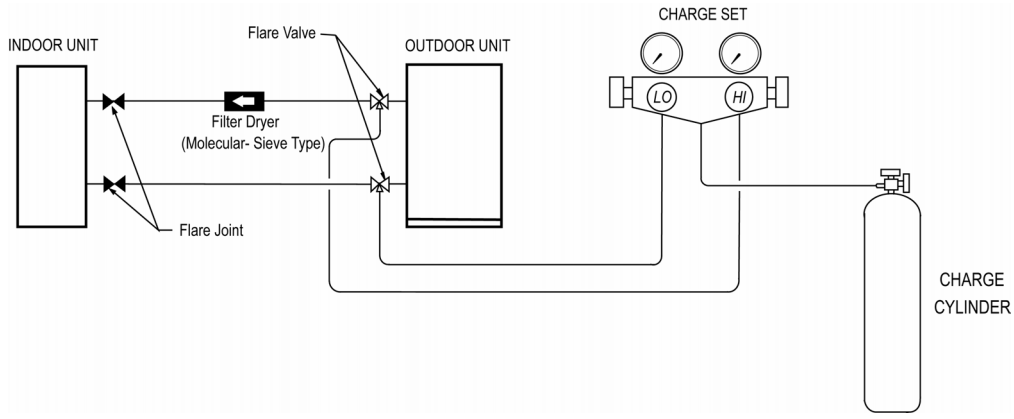
Do not top-up when servicing leak, as this will reduce the unit performance. Vacuum the unit thoroughly and then charge the unit with fresh R407C according to the amount recommended in the specification.

(6) Additional Charge

- The refrigerant gas has already charged into the outdoor unit. For the piping length of 5m. Additional refrigerant charge after vacuuming is not necessary.
- When the piping length is more than 5m, please use the table below (unit in gram).

MODEL	7m	10m	15m	20m	35m
020D/ 020DR	30/50	75/125	150/250	225/375	-
025D/ 025DR	76/100	190/250	380/500	570/750	-
030D/ 030DR	100	250	500	750	1500
040D/ 040DR	100	250	500	750	1500
050D/ 050DR	100	250	500	750	1500
061C/CR	220	550	1100	1650	3300

Diagram shows typical charging method.



CAUTION FOR R407C

Avoid prolong exposure of an opened compressor, or the internal part of refrigerant piping to moist air. The POE oil in the compressor and piping can absorb moisture from air.

(7) Overall Checking

- Ensure the following, in particular :
  1) The unit is mounted solidly and rigid in position.
  2) Piping and connections are leak proof after charging.
  3) Proper wiring has been done.

- Drainage check - pour some water into drain pan.
- Test run
  1) Conduct a test run after water drainage test and gas leakage test.
  2) Watch out for the following :
     a) Is the electric plug firmly inserted into the socket?
     b) Is there any abnormal sound from unit?
     c) Is there any abnormal vibration with regard to unit itself or piping?
     d) Is there smooth drainage of water?
- Check that :
  1) Outdoor fan is running, with warm air blowing off the outdoor unit (cooling cycle).
  2) Indoor blower is running and discharge cool air (cooling cycle).
  3) Suction (low side) pressure is as per recommendations.
  4) The remote controller has incorporated a 3 minutes delay in the circuit. Thus, it requires about 3 minutes before the outdoor unit can start up.

(8) Standard Operating Condition

Cooling Only Unit

Temperature	Ts °C	Th °C
minimum indoor temperature	19.4	13.9
maximum indoor temperature	26.7	19.4
minimum outdoor temperature	19.4	13.9
maximum- outdoor temperature	46.0	24.0

Heat Pump Unit

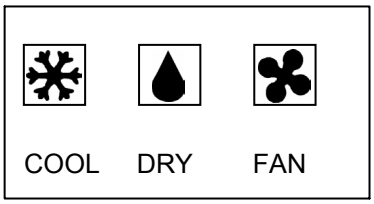
Temperature	Ts °C	Th °C
minimum indoor temperature	15.0	-
maximum indoor temperature	26.7	-
minimum outdoor temperature	-8.0	-9.0
maximum- outdoor temperature	24	18

Ts : Dry bulb temperature
Th : Wet bulb temperature

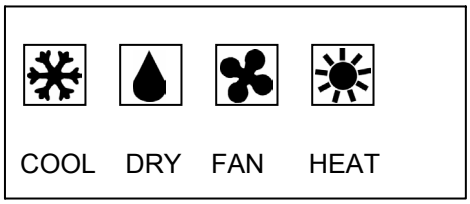
(9) Operating State and Fault Table

Wireless Remote Control - Handset

Cooling: LED Indicator Light Display



Heatpump : LED Indicator Light Display



Self Diagnosis Table

COOL	DRY	FAN	HEAT	Operation/ Faulty Indicator
❍				Cooling mode
	❍			Dry mode
		❍		Fan mode
			❍	Heat mode
◑			❍	Auto mode in heating operation
❍			◑	Auto mode in heating operation
			◑	Defrost operation
◑				Compressor overload protection
	◑			Outdoor coil sensor contact loose/short
		◑		Room air sensor contact loose/short

❍ **ON** ❍ / ● **ON or OFF** ◑ **BLINKING**

Wired Remote Control – SLM

Cooling / Heatpump Model

Error Code at 7 Segment Display	Operation/ Faulty Indication
E1 Blinking	Room Sensor Contact Loose / Short
E2 Blinking	Indoor Coil Sensor Contact Loose / Short
E3 Blinking	Outdoor Coil Sensor Contact Loose / Short
E4 Blinking	Compressor Overload
E5 Blinking	Gas Leak
E6 Blinking	Pump Faulty
Heat LED Blinking	Outdoor Defrost (For Heat Pump Only)

Remote Control Operation Guide

G6 Remote Controller

FAN SPEED AND VENTILATION MODE SELECTION

Press the button until the desired fan speed is achieved.

8

SIGNAL TRANSMISSION INDICATION

- Blink to confirm the last setting has been send to the unit.

2

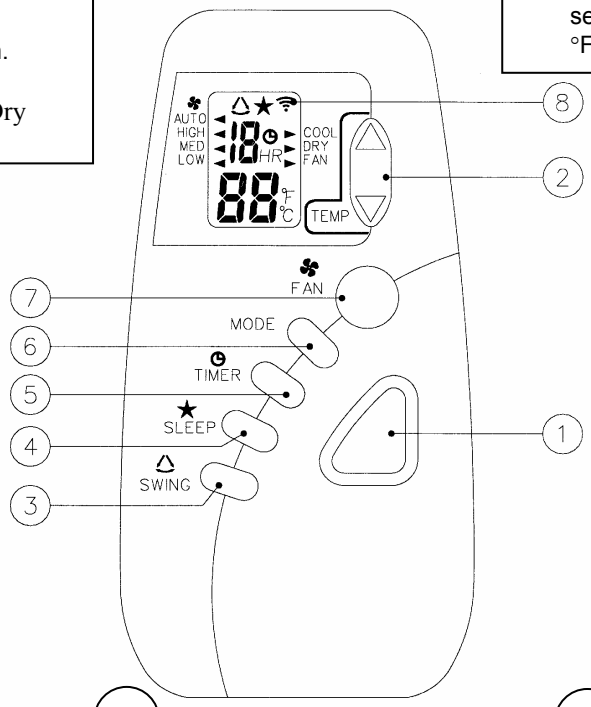
TEMPERATURE SETTING

- Set the desire room temperature.
- Press button to increase or decrease the set temperature. Setting range are between 16°C to 30°C setting (60°F to 80°F)(Optional setting from 20°C to 30°C).
- Press ▲ or ▼ button simultaneously will toggle the temperature setting between °C and °F.

6

OPERATION MODES

- Press the “mode” button for select the type of operating mode.
- Cooling only unit: Cool →Dry →Fan.
- Heatpump unit : Auto →Cool →Dry



5

TIMER SETTING

- Press set button to activate the timer setting (from 1 hour to 15 hour) of the air conditioning unit. It will be in "On" or "Off" condition after the set time depending to the current condition (either from "On" to Off" or vise versa)
- To cancel the timer setting, press the button continuously until the timer display goes off.

4

SLEEP MODE

- Press the button to activate sleep mode. This mode can only be activated while in cooling or heating mode operation. If it is activated in “COOL” mode, the set temperature will be increase 0.5°C after 30 minutes, 1°C after 1 hour and 2°C after 2 hours. Whereas in “HEAT” mode, the set temperature will decrease by 1°C after 30mins, 2°C after 1 hour and 3°C after 2 hours.
- This function is available under COOL, HEAT & AUTO mode.

1

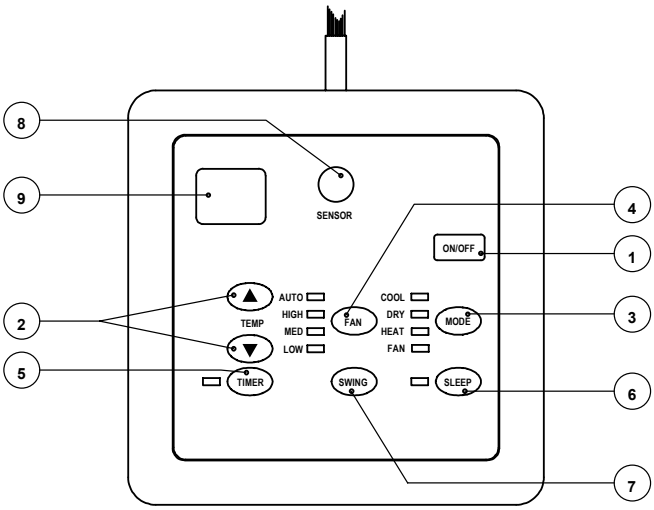
ON / OFF switch

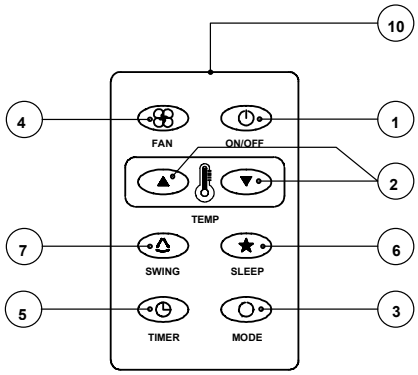
- Press to start the air conditioner unit.
- Press again to stop the unit.

3

AUTOMATIC AIR SWING

- Press the button to activate the automatic air swing function. The swing angle ranging from horizontal to 25° to bottom.





SLM

AC-5300 (OPTIONAL)

1. "ON/OFF" switch
- Press to start the air conditioner unit.
- Press again to stop the unit.

2. Temperature setting
- Set the desired room temperature.
- Press button to increase or decrease the set temperature. Setting range are between 16°C to 30°C (60°F to 80°F).

3. Operation Modes
- Press the "mode" button for select the type of operating mode.
  - Cooling Only :
    COOL, DRY, FAN
  - Heat Pump :
    AUTO, COOL, DRY, HEAT, FAN
    (AUTO mode is represented by both COOL and HEAT LED light on)

4. Fan Speed selection.
- Press the button until the desired fan speed is achieved.

5. Timer.
- Press the set button to select the switch timer of the air conditioner unit (the setting range is between 1 to 10 hours).

6. "Sleep" mode
- Press button to activate the sleep function. This function can only be activated under "cool" or heating mode operation. When it is activated under "cool" mode operation, the set temperature will increase 0.5°C after 30 minutes, 1°C after 1 hour and 2°C after 2 hours. If it is activated under "HEAT" mode operation, the set temperature will be decreased 0.5° C after 30 minutes, 1° C after 1 hour and 2° C after 2 hours.

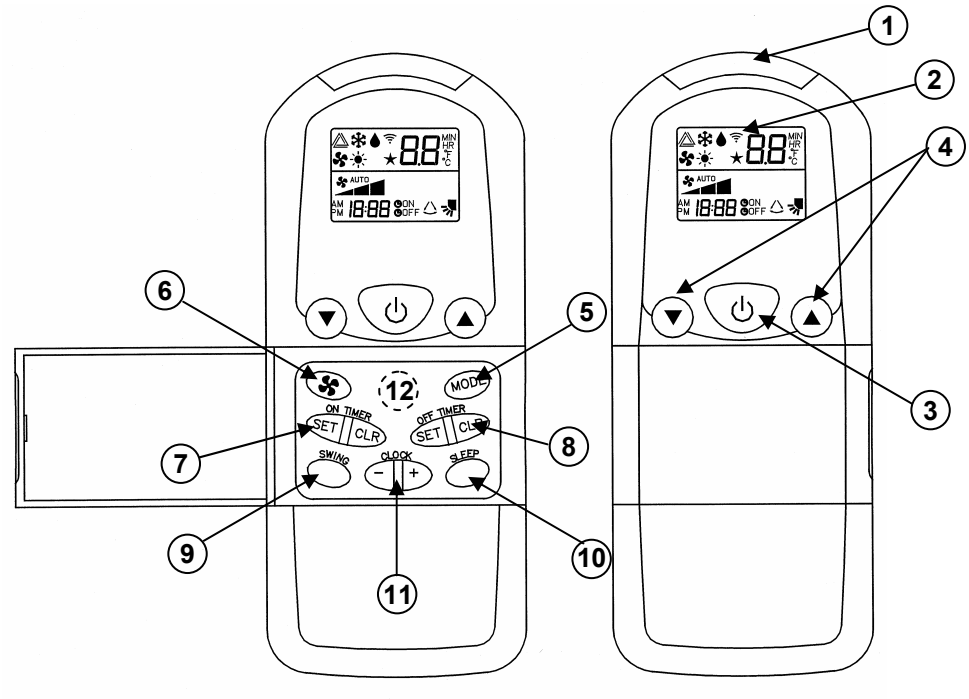
7. Air Swing
- Press button to activate the automatic air swing function.

8. Sensor
- Infra red sensor to receive signals from wireless controller.

9. LED display
- To display the set temperature (in ° C) and timer delay setting (in hours).

10. Transmission source
- To transmit signals to the air conditioner.

G8 Remote Controller



1. Transmission source
- The source where the signal will be transmitted.

2. Signal Transmission indication
- Blink to confirm the last setting has been send to the unit.

3. On/Off Button
- Press once to start the air conditioner.
- Press again to stop the unit.

4. Temperature setting
- To set the desired room temperature, press the button to increase or decrease the set temperature.
- The temperature setting range is from 16°C to 30°C (Optional setting 18°C to 30°C).
- Press both buttons simultaneously to toggle the temperature setting between °C and °F.

5. Operation mode
- Press the MODE button to select the type of operating mode.
- For cooling only unit, the available modes are : COOL, DRY & FAN.
- For heat pump unit, the available modes are : AUTO, COOL, DRY, FAN & HEAT.

6. Fan speed selection
- Press the button until the desired fan speed is achieved.

7. ON timer setting
- Press the SET button will activate the on timer function.
- Set the desired on time by pressing the SET button continuously. If the timer is set to 7.30am, the air conditioner will turn on at 7.30am sharp.
- Press the CLR button to cancel the on timer setting.

8. OFF timer setting
- Press the SET button will activate the off timer function.
- Set the desired off time by pressing the SET button continuously.
- Press the CLR button to cancel the off timer setting.

9. Automatic air swing
- Press the SWING button to activate the automatic air swing function.
- To distribute the air to a specific direction, press the SWING button and wait until the louver move to the desired direction and press the button once again.

10. Sleep mode setting
- Press the button to activate sleep mode. This function is available under COOL, HEAT & AUTO mode.
- When it is activated in COOL mode, the set temperature will be increased 0.5°C after 30mins, 1°C after 1 hour and 2°C after 2 hours.
- When it is activated in HEAT mode, the set temperature will be decreased 1°C after 30mins, 2°C after 1 hour and 3°C after 2 hours.

11. Clock time setting
- Press button + or – to increase or decrease the clock time.

12. Turbo function (optional – only applicable to inverter unit)
- Press button for fast cooling or heating operation.
- The temperature will be increased internally if it is in the HEAT mode, decreased if in COOL or DRY mode. Fan speed will be increased if it is not at maximum speed.
- The temperature & fan speed will resume to user setting if the button is pressed again or after 20mins.
- Available under HEAT, COOL & DRY modes only.

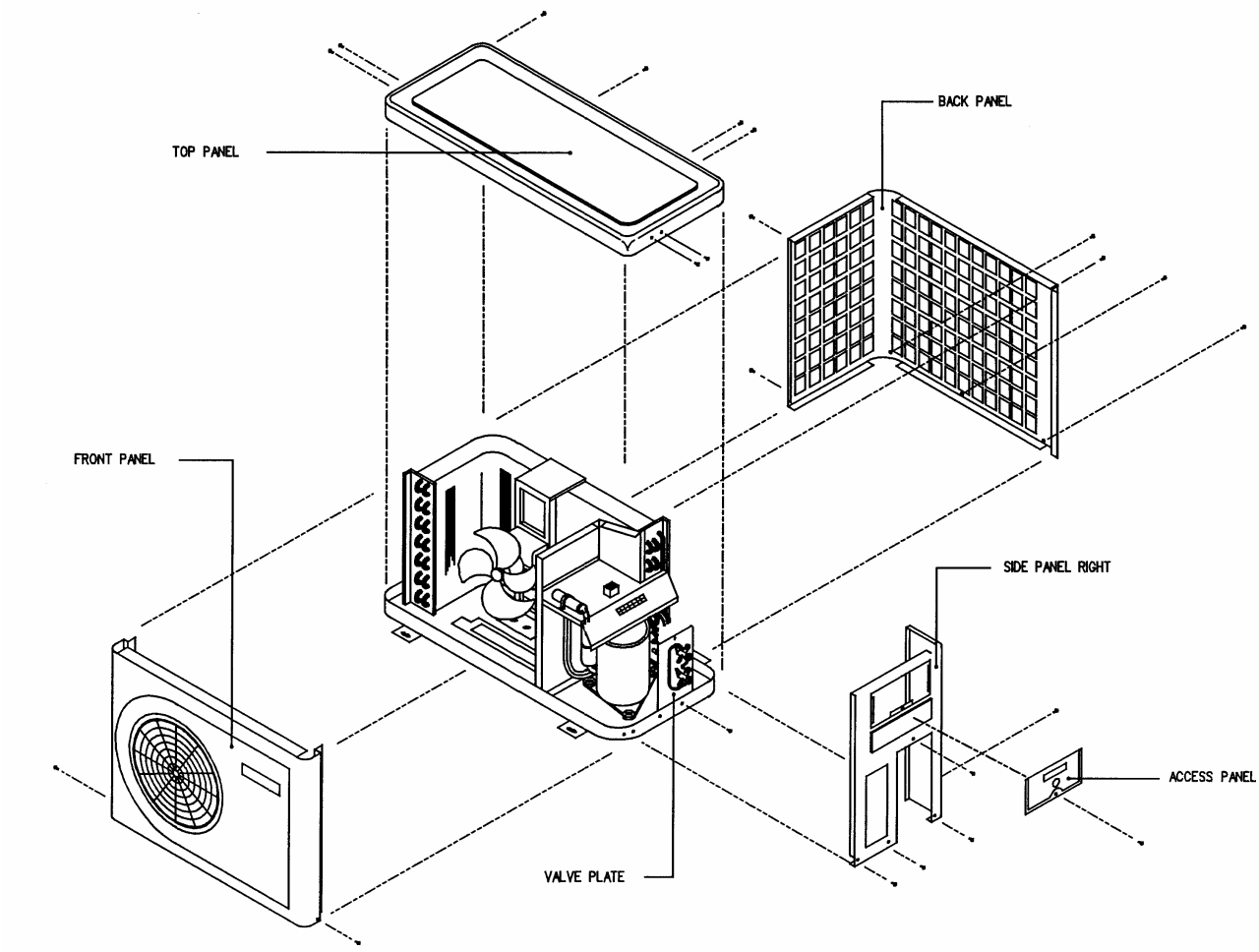
Trouble Shooting

When any air-conditioner malfunction is noted, immediately switch off the power supply to the unit, and contact the local dealer, if necessary. Some simple troubleshooting tips are given below :

FAULT	CAUSE
1. Fan does not work 3 minutes after starting	• Protection against the frequent starting. Wait 3 or 4 minutes.
2. The air conditioning unit does not work	• Power failure or you must be replaced the fuse. • The power plug is disconnected. • Possibility of making a programming error in the controller. • If the fault persist after these verifications, contact your installer.
3. The air conditioning unit does not blow sufficiently	• The air filter is dirty. • The doors or windows are open. • The air entrance and exit are clogged. • The regulate temperature is not high enough.
4. The remote control light is deficient	• The batteries are discharge. • The batteries are not correctly inserted. • The assembly is not good.
5. Air discharge flow has a bad odor	• This odor can be caused by cigarette smoke particles, perfume, sweat, which stick to the coil. • Check if there is any moisture on the walls, garment, other. • Check the drain pan.
6. Condensation on the air grille of indoor unit	• This is due to air humidity after a long time of operation. • The unit has a lower temperature point, increase the point and operate at high speed.
7. The water flow of air conditioning unit	• Check the condensate evacuation.
8. The air conditioning unit is noisy	• “Air flow noise” : refrigerant fluid admission in evaporator.

The design of the MLC outdoor series allows servicing to be carried out readily and easily. The removal of the top side, front and back panel make almost every part accessible.

Under normal circumstances, these outdoor units only require a check and cleaning of air intake coil surface once quarterly. However, if a unit is installed in areas subjected to much oil mist and dust, the coils must be regularly cleaned by qualified Air Conditioner Service Technicians to ensure sufficient heat exchange and proper operation. Otherwise, the systems life span may be shortened.



CAUTION!

Do not charge OXYGEN, ACETYLENE OR OTHER FLAMMABLE and poisonous gases into the unit when performing a leakage test or an airtight test. These gases could cause severe explosion and damage if exposed to high temperature and pressure.
It is recommended that only nitrogen or refrigerant be charged when performing the leakage or airtight test.

Trouble Shooting

When any air-conditioner malfunction is noted, immediately switch off the power supply to the unit, and contact the local dealer, if necessary. Some simple troubleshooting tips are given below :

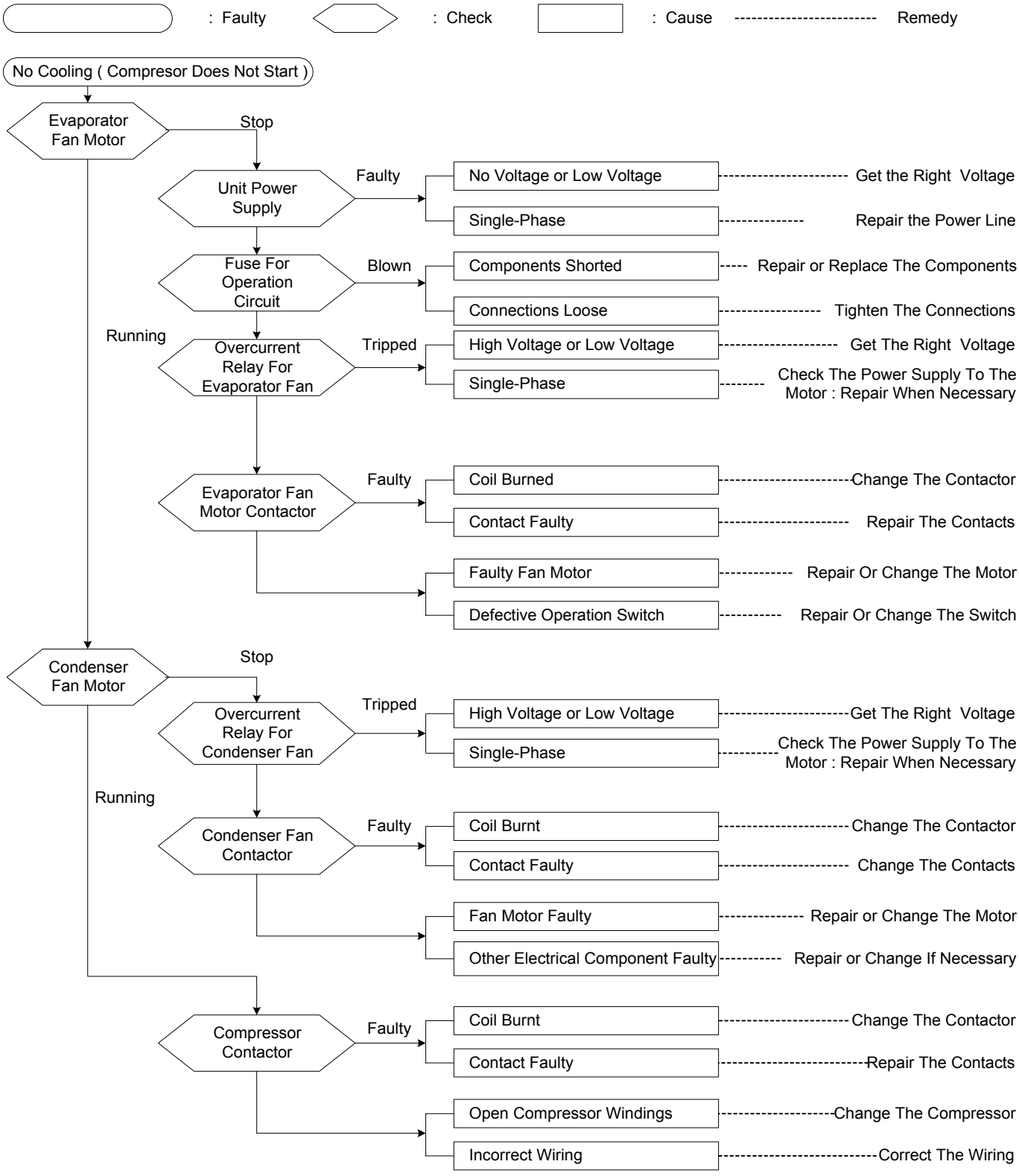
FAULT	CAUSE
1. Fan does not work 3 minutes after starting	• Protection against the frequent starting. Wait 3 or 4 minutes.
2. The air conditioning unit does not work	• Power failure or you must be replaced the fuse. • The power plug is disconnected. • Possibility of making a programming error in the controller. • If the fault persist after these verifications, contact your installer.
3. The air conditioning unit does not blow sufficiently	• The air filter is dirty. • The doors or windows are open. • The air entrance and exit are clogged. • The regulate temperature is not high enough.
4. The remote control light is deficient	• The batteries are discharge. • The batteries are not correctly inserted. • The assembly is not good.
5. Air discharge flow has a bad odor	• This odor can be caused by cigarette smoke particles, perfume, sweat, which stick to the coil. • Check if there is any moisture on the walls, garment, other. • Check the drain pan.
6. Condensation on the air grille of indoor unit	• This is due to air humidity after a long time of operation. • The unit has a lower temperature point, increase the point and operate at high speed.
7. The water flow of air conditioning unit	• Check the condensate evacuation.
8. The air conditioning unit is noisy	• “Air flow noise” : refrigerant fluid admission in evaporator.

For Cooling Only Models Or Heat Pump Models (Cooling Cycle)

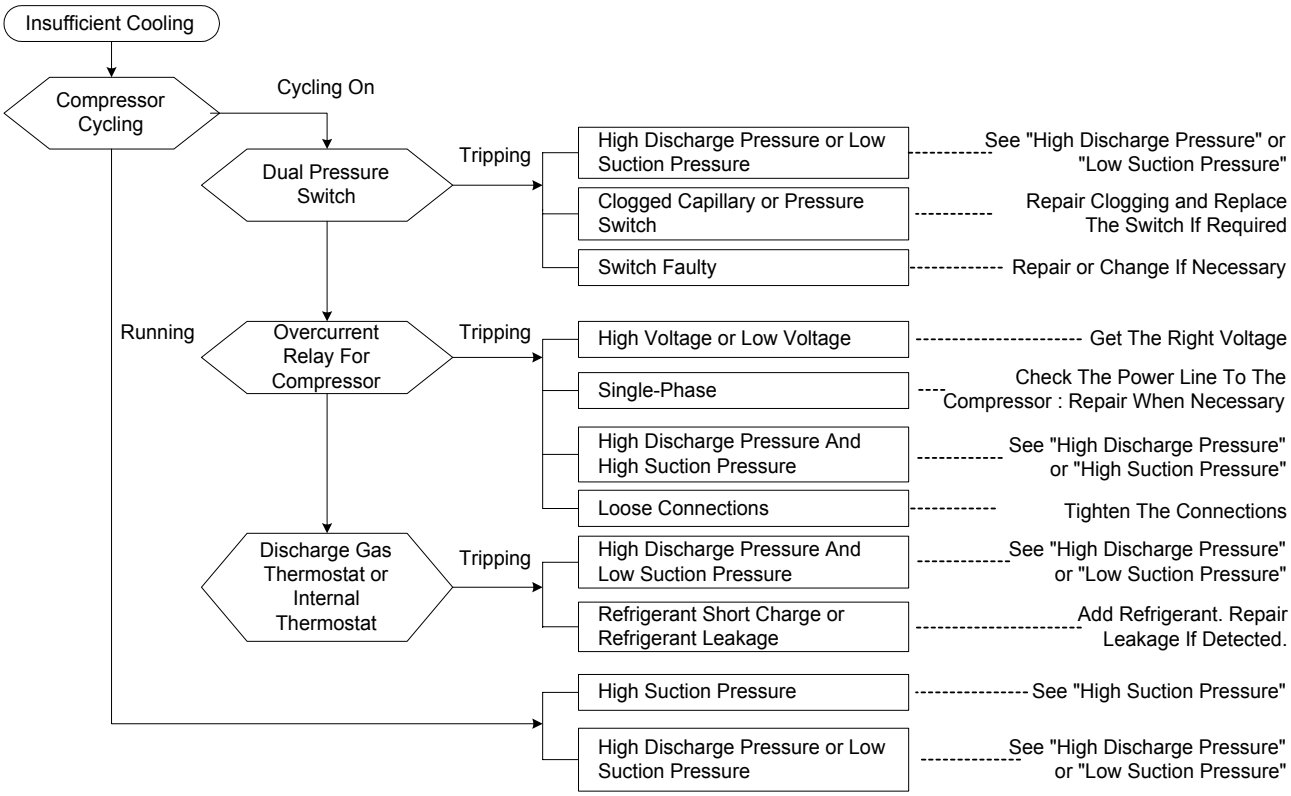
Diagnosis By Flow Chart

The following chart are efficient checking procedures for troubleshooting when these fan-coil units are coupled with the condensing units using standard wiring. For dual circuited models, perform the procedures for each circuit.

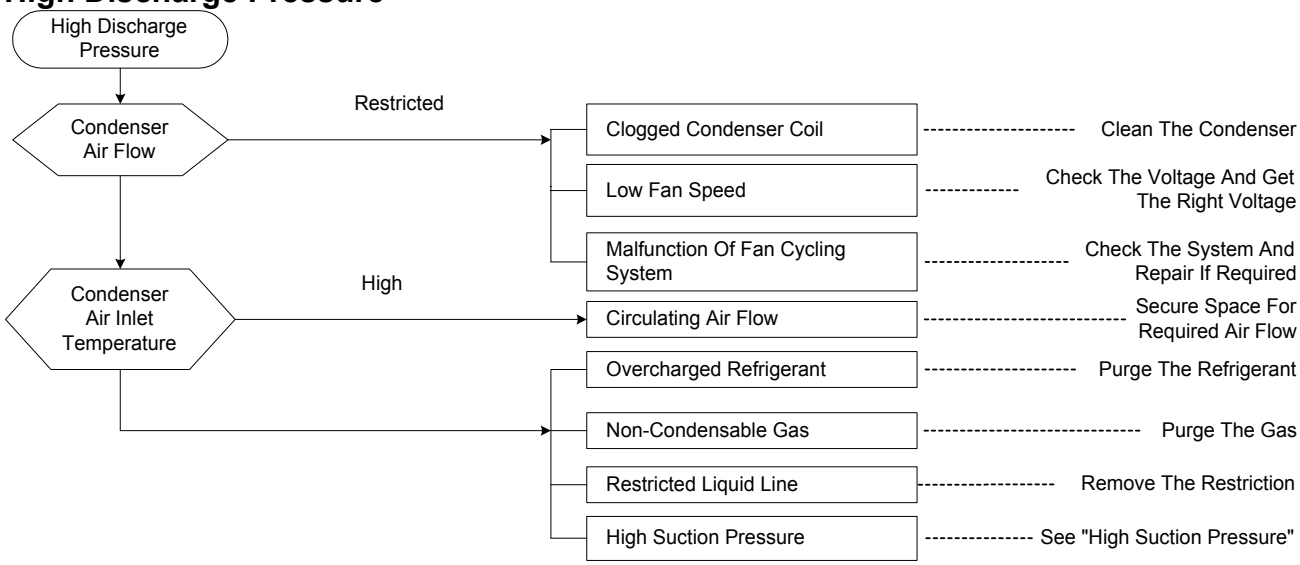
No Cooling



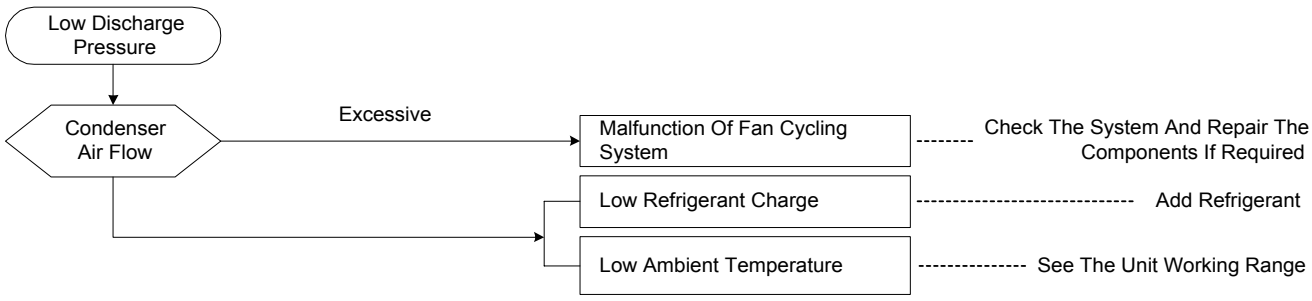
Insufficient Cooling


Insufficient Cooling
Compressor Cycling
Cycling On
Dual Pressure Switch
Tripping
High Discharge Pressure or Low Suction Pressure
See "High Discharge Pressure" or "Low Suction Pressure"
Clogged Capillary or Pressure Switch
Repair Clogging and Replace The Switch If Required
Switch Faulty
Repair or Change If Necessary
Running
Overcurrent Relay For Compressor
Tripping
High Voltage or Low Voltage
Get The Right Voltage
Single-Phase
Check The Power Line To The Compressor : Repair When Necessary
High Discharge Pressure And High Suction Pressure
See "High Discharge Pressure" or "High Suction Pressure"
Loose Connections
Tighten The Connections
Discharge Gas Thermostat or Internal Thermostat
Tripping
High Discharge Pressure And Low Suction Pressure
See "High Discharge Pressure" or "Low Suction Pressure"
Refrigerant Short Charge or Refrigerant Leakage
Add Refrigerant. Repair Leakage If Detected.
High Suction Pressure
See "High Suction Pressure"
High Discharge Pressure or Low Suction Pressure
See "High Discharge Pressure" or "Low Suction Pressure"

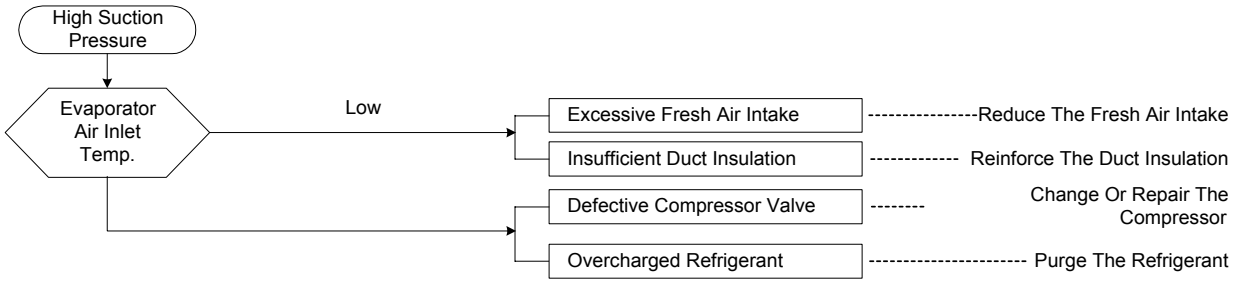
High Discharge Pressure



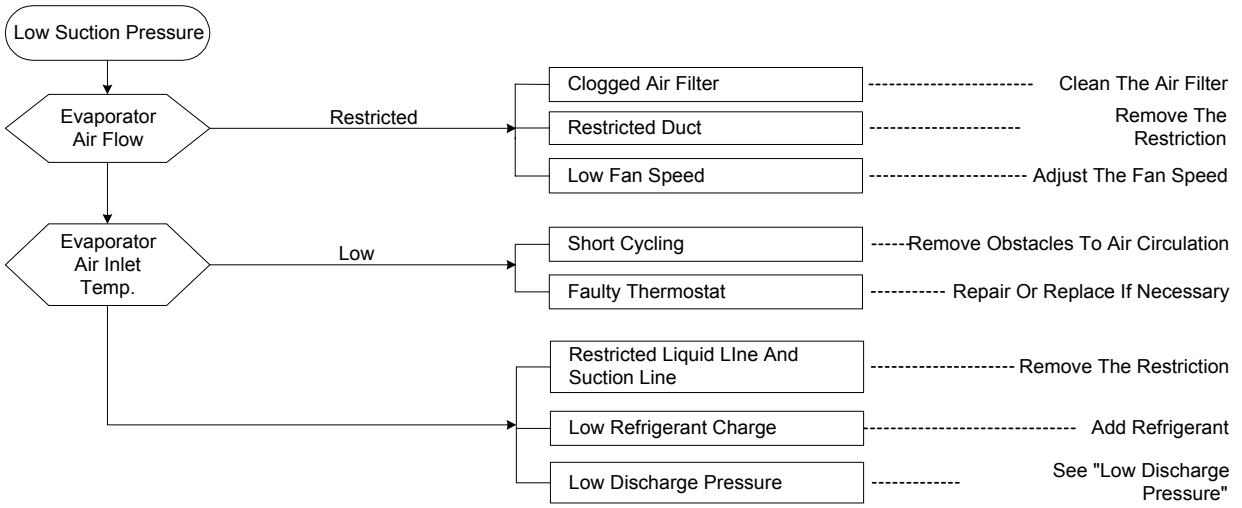
Low Discharge Pressure



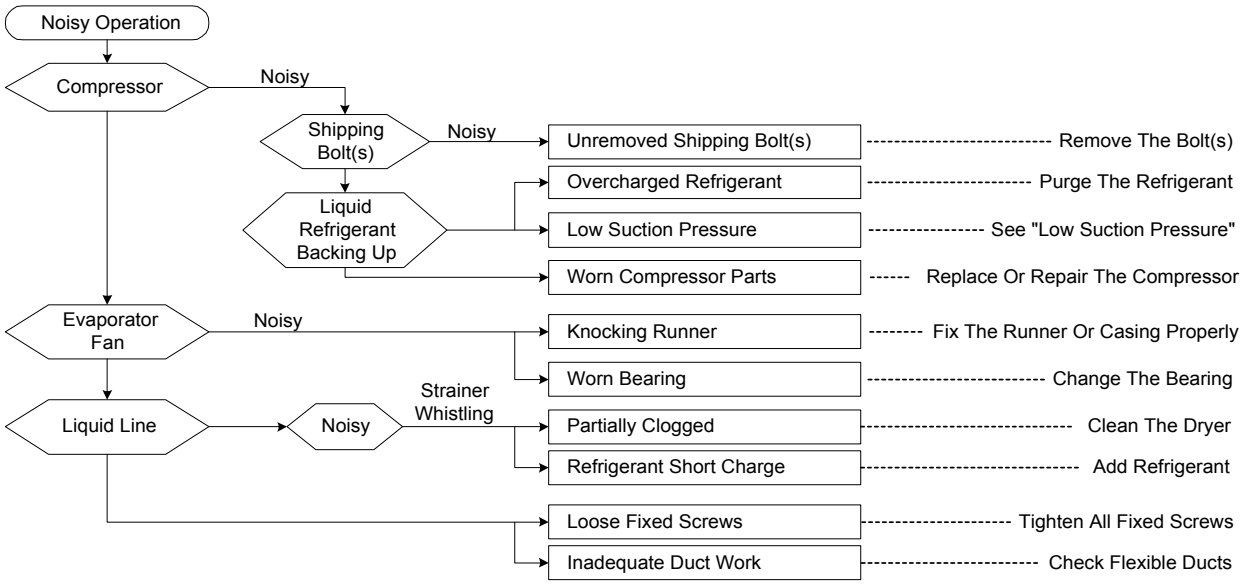
High Suction Pressure



Low Suction Pressure



Noisy Operation



For Heat Pump Models

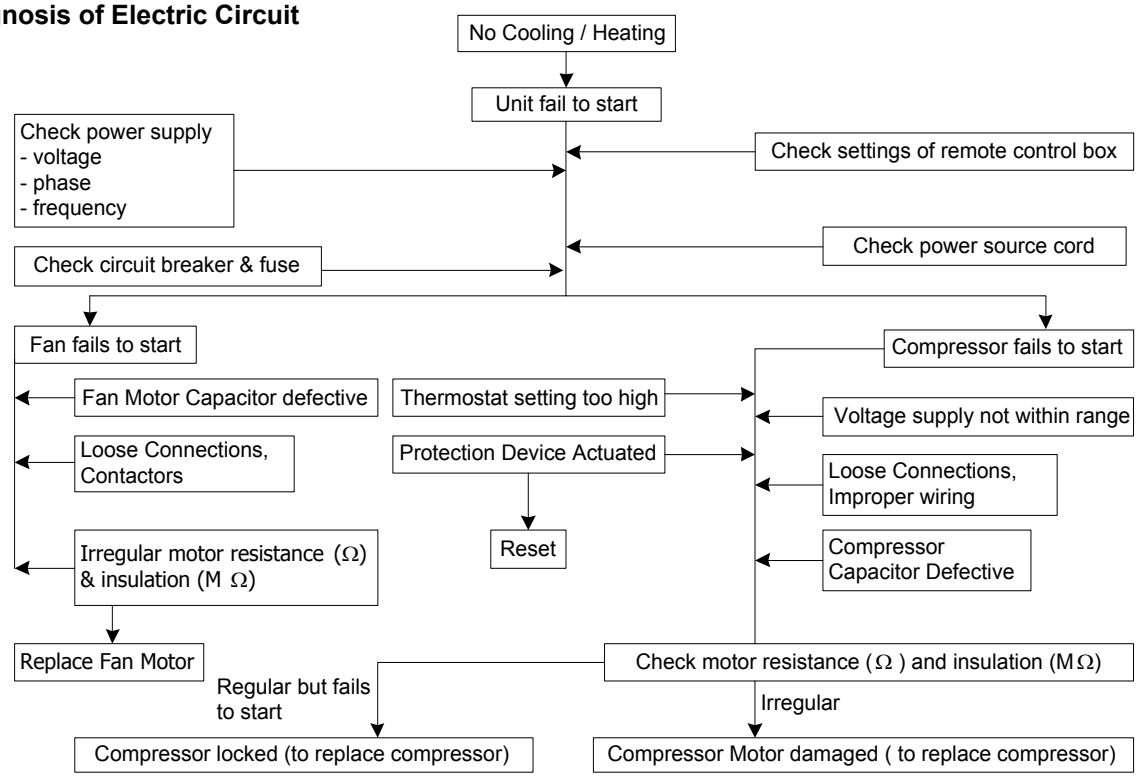
By means of pressure readings :

PRESSURE						PROBABLE CAUSE
Data / Circuit	Too Low	A Little Low	Normal	A Little High	Too High	
High Side **Low Side**					● ●	1. Overcharged with refrigerant. 2. Non-condensable gases in refrigerant circuit (e.g. oil). 3. Obstructed air-intake/discharge. 4. Short circuiting of hot air at outdoor unit.
High Side **Low Side**	●				●	1. Poor compression/no compression (compressor defective.) 2. Check valve stick in open position. 3. Reversing valve leaking.
High Side **Low Side**	●	●				1. Undercharged with refrigerant. 2. Refrigerant leakage. 3. Air filter clogged/dirty (indoor unit). 4. Indoor fan locked (Cooling). 5. Defective defrost control, outdoor coil freeze up (heating). 6. Outdoor fan locked (heating).
High Side **Low Side**				●	●	1. Outdoor fan blocked (cooling). 2. Outdoor coil dirty (cooling). 3. Indoor fan locked (heating). 4. Indoor filter clogged/dirty (heating). 5. Non-condensable gases in refrigerant circuit (e.g. air)
High Side **Low Side**				●	●	1. Air intake temperature of indoor unit too high.

By Means Of Diagnosis Flow Chart

Generally, there are two kind of problems, i.e. starting failure and insufficient cooling/heating. "Starting Failure" is caused by electrical defect while "Insufficient Cooling/Heating" is caused by improper application or defects in refrigerant circuit.

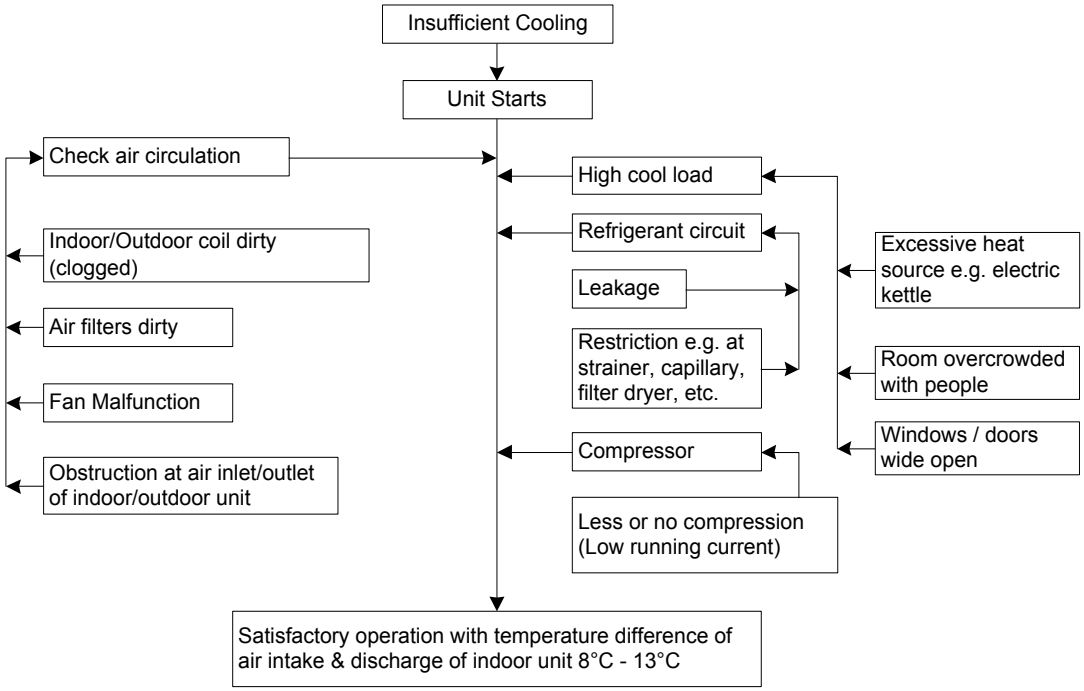
i) Diagnosis of Electric Circuit

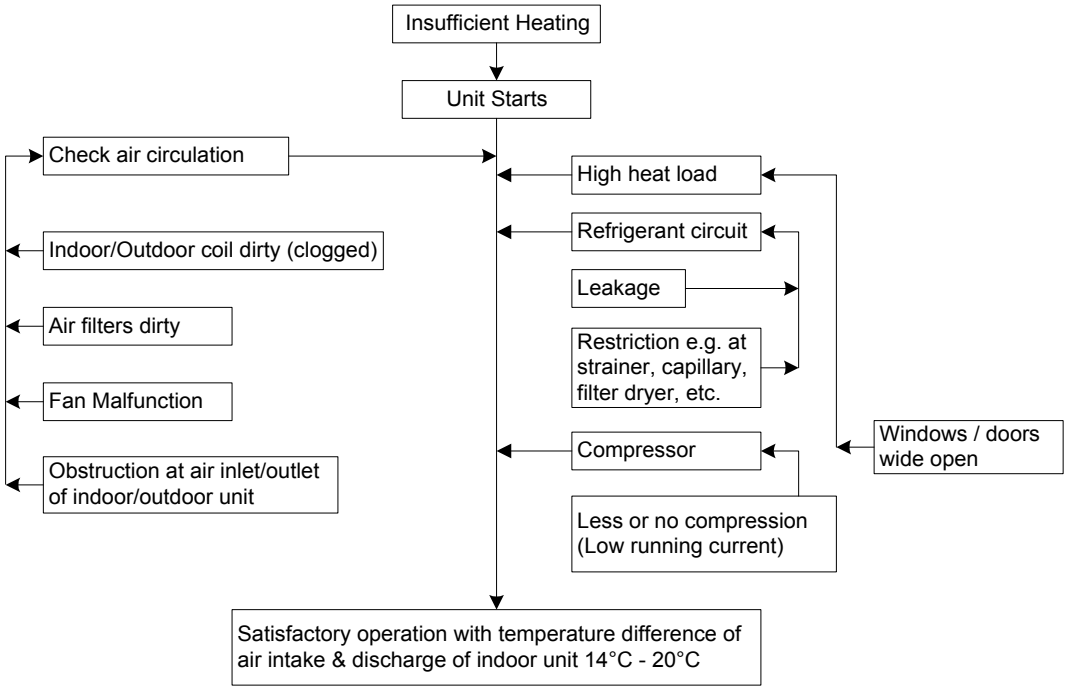

No Cooling / Heating
Unit fail to start
Check power supply
- voltage
- phase
- frequency
Check settings of remote control box
Check power source cord
Check circuit breaker & fuse
Fan fails to start
Compressor fails to start
Fan Motor Capacitor defective
Thermostat setting too high
Voltage supply not within range
Loose Connections, Contactors
Protection Device Actuated
Loose Connections, Improper wiring
Reset
Irregular motor resistance (Ω) & insulation (M Ω)
Compressor Capacitor Defective
Replace Fan Motor
Check motor resistance (Ω) and insulation (MΩ)
Regular but fails to start
Irregular
Compressor locked (to replace compressor)
Compressor Motor damaged (to replace compressor)

The most common causes of air conditioner failure to “start" are:
a) Voltage not within ±10% of rated voltage.
b) Power supply interrupted.
c) Control settings improper.
d) Air conditioner is disconnected from main power source.
e) Fuse blown or circuit breaker off.

ii) Diagnosis of Refrigerant Circuit / Application

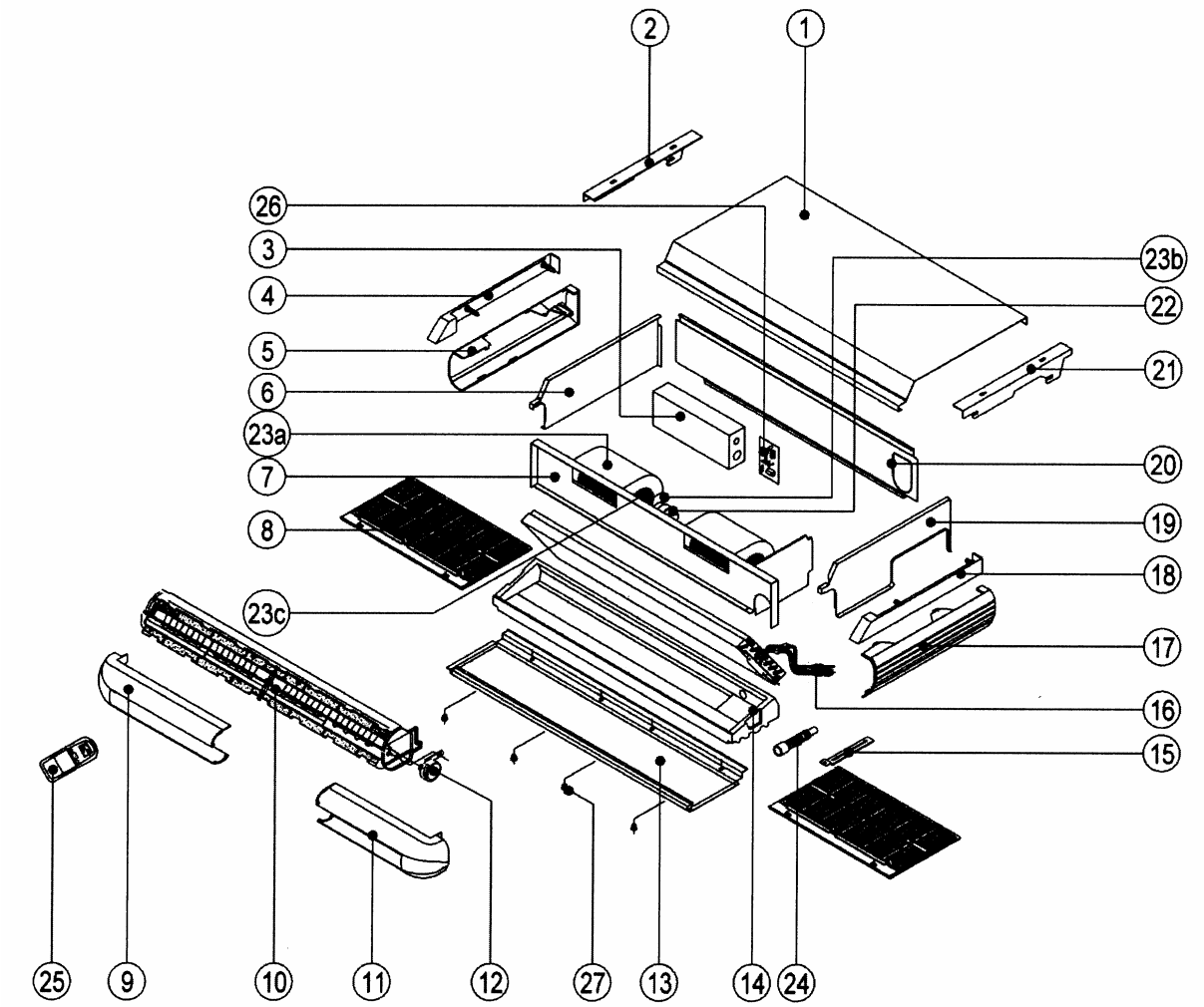
There might be some cases where the unit starts running but does not perform satisfactory, i.e. insufficient cooling. Judgement could be made by measuring temperature difference of indoor unit's intake and discharge air as well as running current.


Insufficient Cooling
Unit Starts
Check air circulation
Indoor/Outdoor coil dirty (clogged)
Air filters dirty
Fan Malfunction
Obstruction at air inlet/outlet of indoor/outdoor unit
High cool load
Refrigerant circuit
Leakage
Restriction e.g. at strainer, capillary, filter dryer, etc.
Compressor
Less or no compression (Low running current)
Excessive heat source e.g. electric kettle
Room overcrowded with people
Windows / doors wide open
Satisfactory operation with temperature difference of air intake & discharge of indoor unit 8°C - 13°C


Insufficient Heating
Unit Starts
Check air circulation
Indoor/Outdoor coil dirty (clogged)
Air filters dirty
Fan Malfunction
Obstruction at air inlet/outlet of indoor/outdoor unit
High heat load
Refrigerant circuit
Leakage
Restriction e.g. at strainer, capillary, filter dryer, etc.
Compressor
Less or no compression (Low running current)
Windows / doors wide open
Satisfactory operation with temperature difference of air intake & discharge of indoor unit 14°C - 20°C

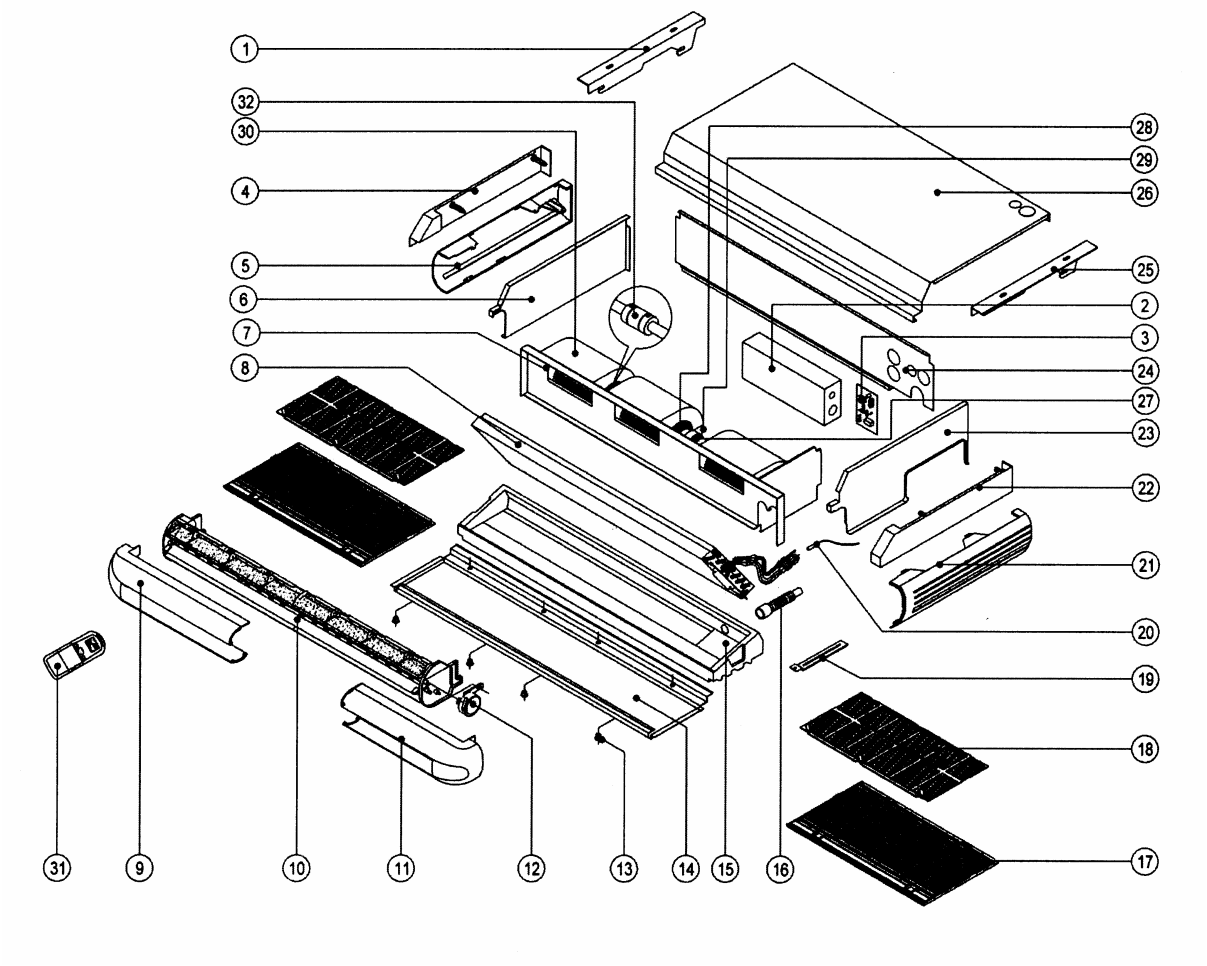
Parts List

Model : MCM020/ 025 D/DR



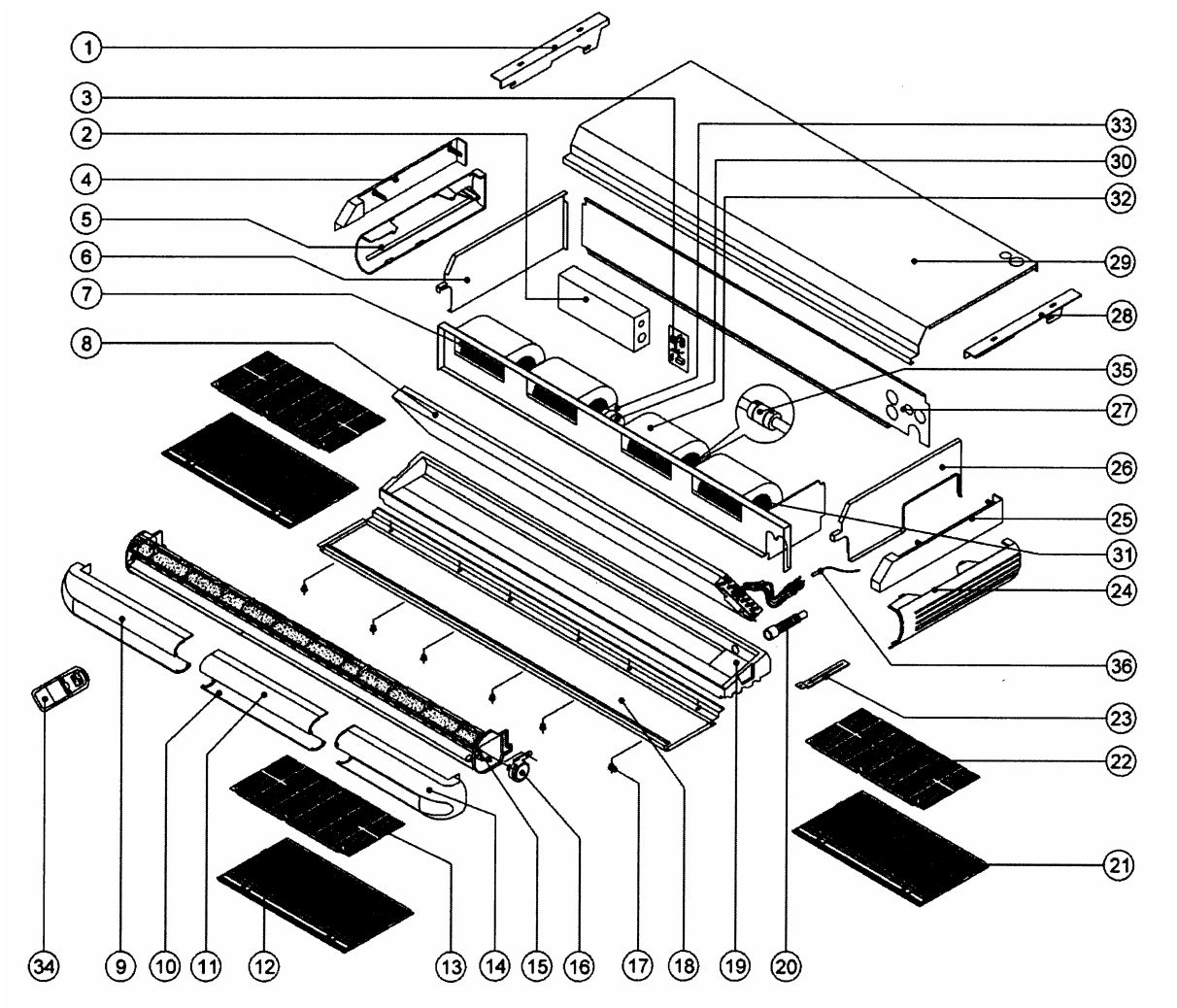
NO.	PARTS DESCRIPTION	NO.	PARTS DESCRIPTION
1	TOP PANEL	16	COIL ASSY
2	HANGER BRACKET - LEFT	17	SIDE FRAME ASSY – RIGHT
3	CONTROL BOX	18	CLOSE UP, SIDE RIGHT
4	CLOSE UP, SIDE PANEL	19	COIL HOLDER ASSY - RIGHT
5	SIDE FRAME ASSY - LEFT	20	BACK PANEL
6	COIL HOLDER ASSY - LEFT	21	HANGER BRACKET – RIGHT
7	FAN DECK	22	FAN MOTOR
8	AIR INTAKE GRILLE ASSY	23a	BLOWER HOUSING, TOP
9	FRONT FRAME – LEFT	23b	BLOWER HOUSING, BOTTOM
10	LOUVER ASSY	23c	BLOWER WHEEL
11	FRONT FRAME – RIGHT	24	DRAIN HOSE ASSY
12	AIR SWIND MOTOR ASSY	25	LCD HANDSET
13	BOTTOM PANEL	26	PCB
14	DRAIN PAN ASSY	27	AIR INTAKE GRILLE FRAME HOLDER ASSY
15	CENTRE SUPPORT BRACKET		

Model : MCM030 D/DR



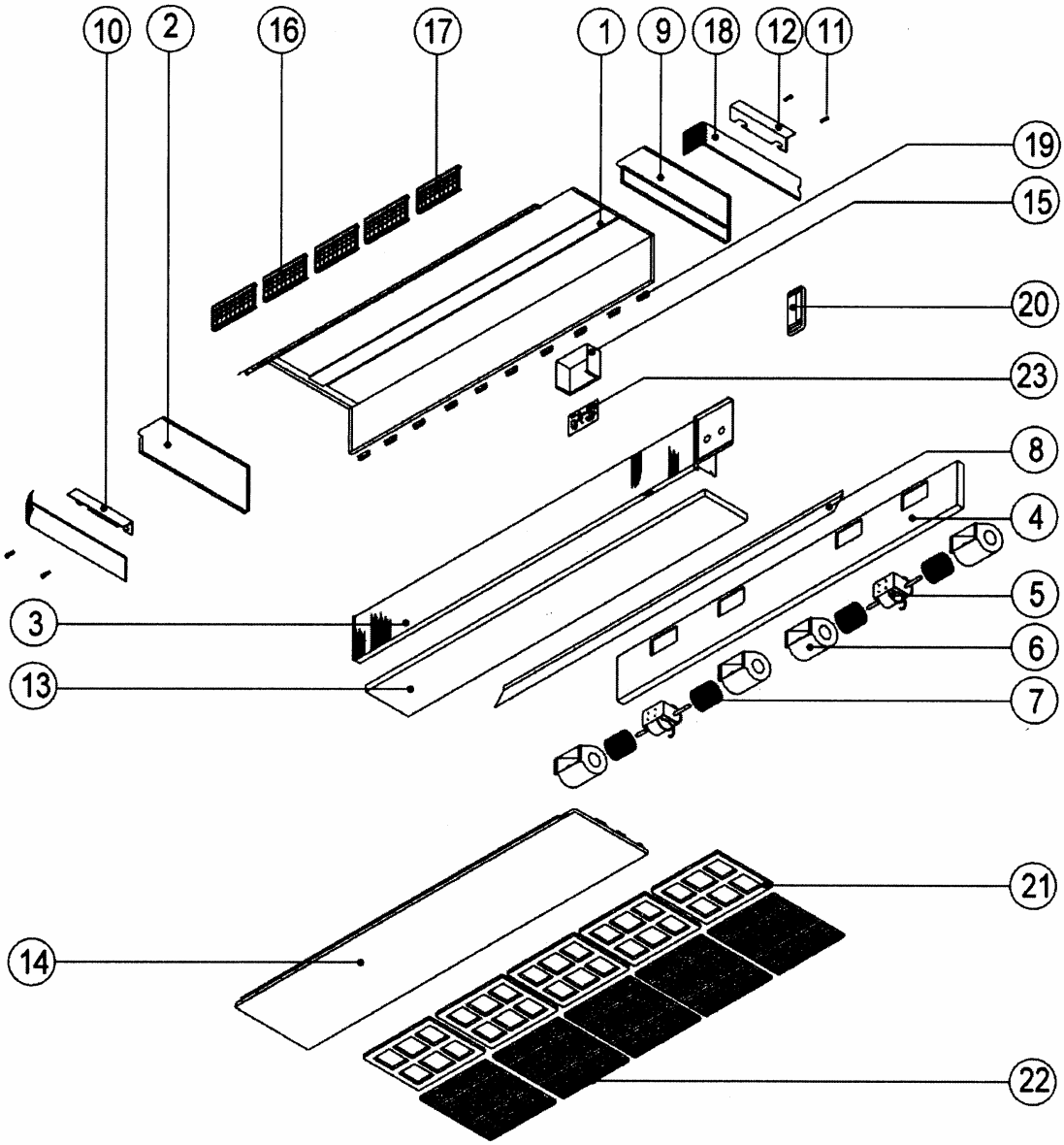
NO.	PART DESCRIPTION	NO.	PART DESCRIPTION
1	BRACKET HANGER, LEFT	17	GRILLE, AIR INTAKE
2	TERMINAL BOX COVER	18	ASSY, FILTER FRAME LEFT/RIGHT
3	PCB	19	BRACKET CENTRE SUPPORT
4	CLOSE UP, LEFT	20	THERMISTER
5	FRAME, SIDE LEFT	21	FRAME, SIDE RIGHT
6	ASSY, COIL HOLDER LEFT	22	CLOSE UP, RIGHT
7	FAN DECK	23	ASSY, COIL HOLDER RIGHT
8	COIL ASSY	24	BACK PANEL
9	FRAME, FRONT LEFT	25	BRACKET HANGER, RIGHT
10	ASSY, LOUVER BOTTOM	26	TOP PANEL
11	FRAME, FRONT RIGHT	27	FAN MOTOR
12	AIR SWING MOTOR ASSY	28	BLOWER WHEEL
13	AIR INTAKE GRILLE FRAME HOLDER ASSY	29	HOUSING BLOWER, BOTTOM
14	BOTTOM PANEL	30	HOUSING BLOWER, TOP
15	DRAIN PAN ASSY	31	LCD HANDSET
16	DRAIN HOSE ASSY	32	RUBBER COUPLING

Model : MCM040/ 050 D/DR



NO.	PART DESCRIPTION	NO.	PART DESCRIPTION
1	BRACKET HANGER, LEFT	19	DRAIN PAN ASSY
2	TERMINAL BOX COVER	20	DRAIN HOSE ASSY
3	PCB	21	AIR INTAKE GRILLE ASSY
4	CLOSE UP, LEFT	22	AIR INTAKE GRILLE ASSY
5	FRAME, SIDE LEFT	23	BACKET, CENTER SUPPORT
6	ASSY, COIL HOLDER LEFT	24	FRAME, SIDE RIGHT
7	FAN DECK	25	CLOSE UP, RIGHT
8	COIL ASSY	26	ASSY, COIL HOLDER RIGHT
9	FRAME, FRONT LEFT	27	BACK PANEL
10	FRONT BOTTOM CENTER	28	BRACKET HANGER , RIGHT
11	FRONT TOP CENTER	29	TOP PANEL
12	AIR INTAKE GRILLE CENTER ASSY	30	FAN MOTOR
13	AIR INTAKE GRILLE CENTER ASSY	31	BLOWER WHEEL
14	FRAME, FRONT RIGHT	32	HOUSING BLOWER, TOP
15	ASSY LOUVER BOTTOM	33	HOUSING BLOWER, BOTTOM
16	AIR SWING MOTOR ASSY	34	LCD HANDSET
17	AIR INTAKE GRILLE FRAME HOLDER ASSY	35	RUBBER COUPLING
18	BOTTOM PANEL	36	THERMISTER

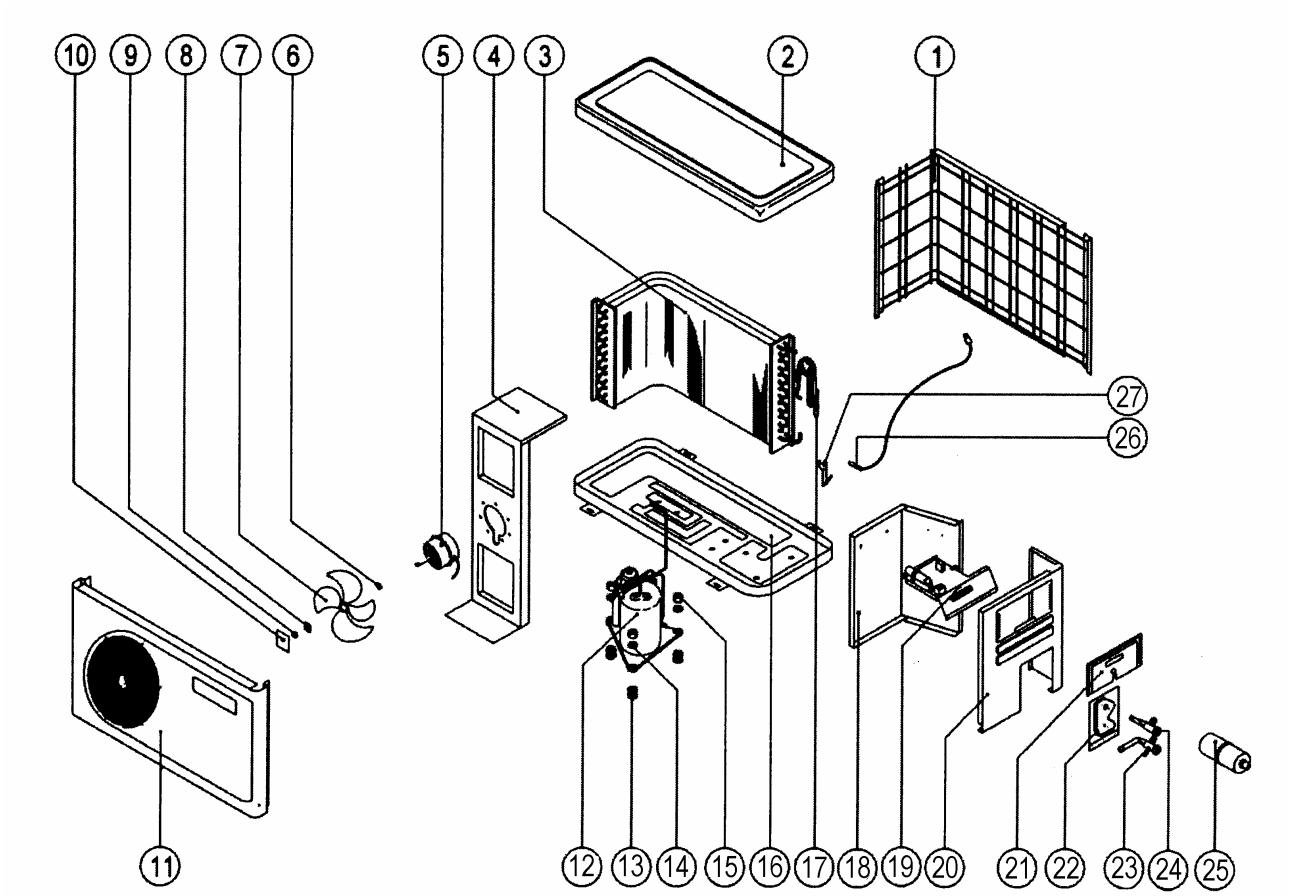
Model : MCM061 / 062 C/CR



NO.	PART DESCRIPTION	NO.	PART DESCRIPTION
1	TOP BACK PANEL	13	DRAIN PAN
2	COIL HOLDER LEFT	14	BOTTOM PANEL
3	COIL ASSY	15	TERMINAL BOX
4	FAN DECK	16	FRONT FRAME (PLAIN)
5	MOTOR	17	FRONT FRAME (WITH LED INDICATORS)
6	BLOWER HOUSING & WHEEL	18	SIDE PANEL
7	RUBBER COUPLING	19	HOOK 4 x 14 mm
8	BRACKET, FAN DECK	20	LCD HANDSET
9	COIL HOLDER RIGHT	21	AIR INTAKE GRILLE C/W FILTER
10	BRACKET LEFT, HANGER W/PAINT	22	AIR INTAKE GRILLE C/W FILTER
11	BOLT, DOME HEAD HEX.	23	PCB
12	BRACKET RIGHT, HANGER W/PAINT		

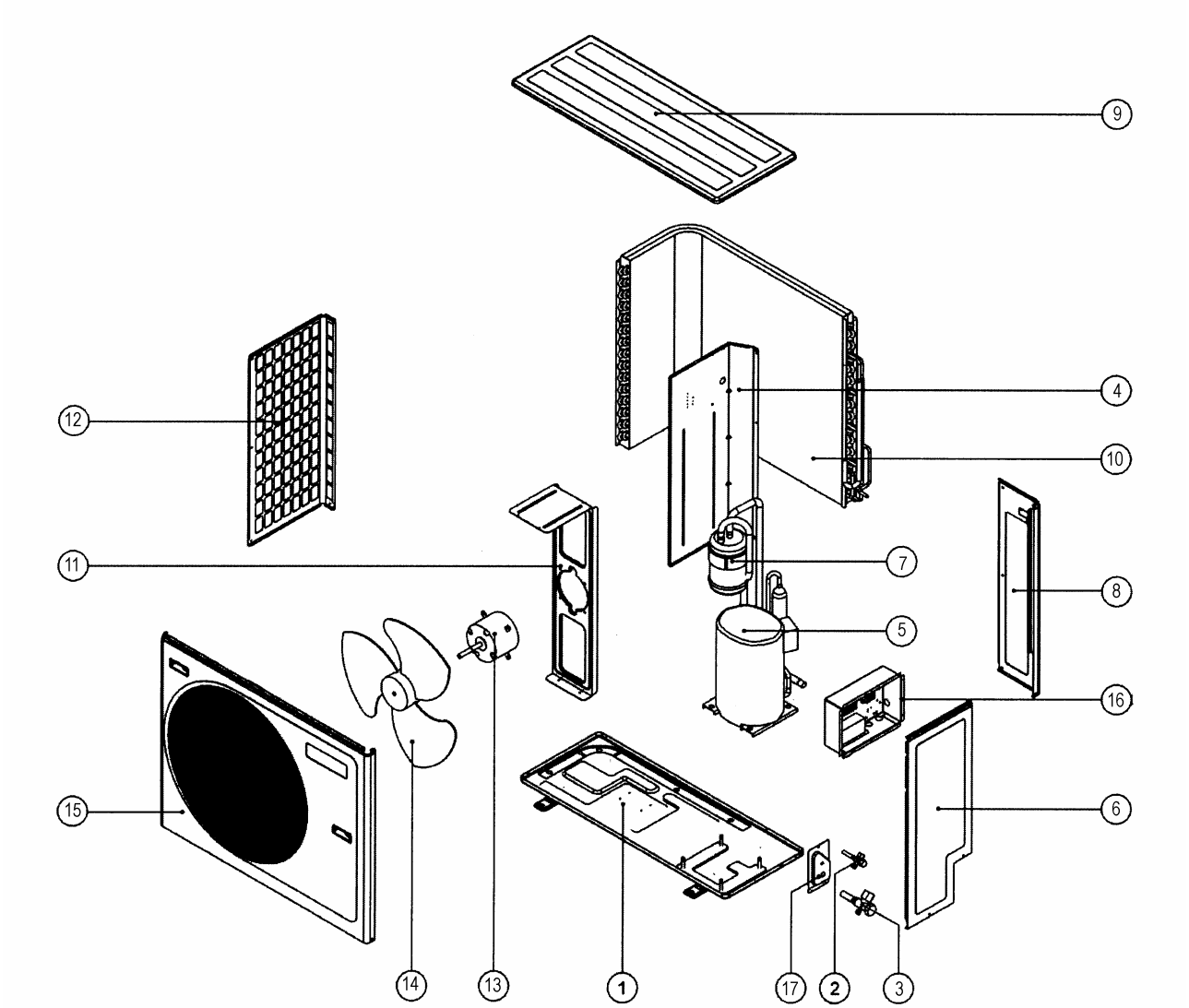
Model : MLC/ M4LC020/ 025 B/BR

MLC030 B/BR



NO	PART DESCRIPTION	NO.	PART DESCRIPTION
1	BACK PANEL	15	NUT
2	TOP PANEL	16	BASE PAN
3	COIL ASSY	17	CAPILLARY TUBE
4	MOTOR MOUNTING BRACKET	18	PARTITION
5	FAN MOTOR	19	TERMINAL BOX PANEL
6	RING WASHER	20	SIDE PANEL
7	FAN BLADE	21	ACCESS PANEL
8	SQUARE WASHER	22	PLATE, FLARE VALVE
9	HEX NUT	23	FLARE VALVE
10	BLACK LABEL	24	FLARE VALVE
11	FRONT PANEL	25	COMPRESSOR CAPACITOR
12	COMPRESSOR	26	OUTDOOR THERMISTER (COPPER)
13	RUBBER GROMMET	27	THERMISTER CLIP
14	WASHER		

Model : MLC/ M4LC030/ 040/ 050/ 061 C/CR, M4LC060C
MLC035 C/CR



NO	PART DESCRIPTION	NO.	PART DESCRIPTION
1	BASE PAN	11	MOTOR BRACKET ASSY
2	FLARE VALVE	12	SIDE PANEL LEFT
3	FLARE VALVE	13	FAN MOTOR
4	PARTITION	14	FAN BLADE
5	COMPRESSOR	15	FRONT PANEL ASSY
6	ACCESS PANEL	16	TERMINAL BOX ASSY
7	ACCUMULATOR	17	PLATE, FLARE VALVE
8	BACK PANEL		
9	TOP PANEL		
10	COIL ASSY		

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